



ANNUAL REPORT
OF THE
PUBLIC WORKS DEPARTMENT
FOR THE
YEAR ENDING DECEMBER 31, 1945.

BOSTON, January 2, 1946.

HON. JOHN E. KERRIGAN,
Mayor of Boston.

DEAR MR. MAYOR,— In compliance with the provisions of section 24 of chapter 3 of the Revised Ordinances of 1925, I respectfully submit the Annual Report of the Public Works Department for the year ending December 31, 1945.

In spite of restrictions brought on by the war, the activities of the department have been carried on without appreciable curtailment of essential service.

On the 17th day of December a very serious accident occurred when the Liberty Ship "John Hathorn," while being assisted by tugs from the Hoosac Tunnel dock in Charlestown, crashed into the Charlestown bridge. A portion of the structure on the Boston side of the draw, measuring about 80 feet in length and 50 feet in width, was torn away, and the impact was so great that the Boston Elevated Railway structure which crosses the bridge was thrown out of position. Street car and elevated train service had to be suspended. Measures were taken immediately by this department to provide

fences and other means of protecting the public, and, with the approval of your Honor, on December 31, a contract was entered into with Coleman Brothers Corporation for making the necessary repairs. The repair work is progressing very satisfactorily, and everything possible is being done by the city and by the Boston Elevated Railway Company to restore to service this very important link in the city's highway and transportation system.

During the year, the matter of expediting the flow of traffic through the Sumner Tunnel was given considerable thought and study. I called into conference representatives of the two transportation companies, the Boston Elevated Railway and the Eastern Massachusetts Street Railway Company, whose buses pass through the tunnel on regular schedule. A plan was worked out whereby the buses would enter the tunnel from either portal by the use of the so-called free lane, without payment of the customary toll ticket at the time, with the understanding that each street railway company would make weekly payments direct to the cashier to cover the number of their vehicles passing through. A trial period starting with Wednesday, August 15, was determined upon, which it was agreed would be made permanent if it proved to be satisfactory.

Observations made during the trial period indicated that the plan had such merit that it should be continued, and it has been made permanent. I am pleased to report that both corporations have cooperated in every possible way, not only to put into effect this plan, but to insure its smooth operation.

The Water Division has continued its campaign for the collection of outstanding bills for water consumption, by reducing the flow of water in the premises upon which accounts are unpaid. A surplus of \$1,473,054.57 of receipts over expenditures, based on collections and increased consumption of water, resulted this year.

For many years complaints have been registered because of the unsanitary conditions existing in Massachusetts Bay, due to the discharge of sewage from the city's storage basins at Moon Island. In the past, various investigations have been conducted and recommendations made for bringing about a solution of the problem. Recently, this department has gone into the matter quite thoroughly, and it has been determined

that the construction of a modern and up-to-date plant at the Calf Pasture, in Dorchester, for the treatment of sewage should be one of the postwar projects of the city. With that in view, a contract for the design of such a plant was made with Charles A. Maguire and Associates, with the approval of your Honor, on November 2. This firm, after conferences with the officials of the department, is now at work on the studies and preliminary plans.

Reports from the Division Engineers covering their operations for the year are attached.

Respectfully submitted,

ROBERT P. CURLEY,
Commissioner of Public Works.

The records of the department show that there are now 2,338 persons eligible for employment in the several divisions, and of that number 2,288 were upon the January, 1946, pay rolls.

Grade and Number of Employees.

TITLE.	SERVICES.									Total.
	Central Office.	Paving and Lighting.	Sewer.	Sanitary.	Street Cleaning.	Bridge.	Ferry.	Tunnel.	Water.	
Commissioner.....	1									1
Division engineers.....		1	1	1		1			1	5
Engineer, chief.....	1									1
Assistant engineers (civil).....	18	31		1	12				5	67
Draftsmen.....									1	1
Instrumentmen.....	13	13			1				2	29
Rodmen.....	5									5
Blueprinters.....		5								5
Superintendents.....	2								1	3
Supervisors.....	1		1	1	1					4
General foreman.....	1	1								2
Foremen.....	10	8	18	13	1		1	7		58
Chief inspectors.....	1	2							1	4
Inspectors-subforemen.....	56	23	47	24	2		2	16		170
Executive secretaries.....	1									1
Chief clerks.....		1	1						2	4
Executive clerks.....		1	1			1			1	4
Clerks-stenographers.....	10	26	11	5	1	3	1	8	52	117
Telephone operators.....		1							1	2
Cashiers and assistants.....				1			1	2	1	5
Storekeepers.....							1		1	2
Patternmaker.....									1	1
Veterinarian-medical inspectors.....					2					2
Chemist and assistant.....		1								1
Cement testers and assistants.....			1							1
Captains.....							2			2
Quartermaster-pilots.....							4			4
Deckhands.....								11		11
Dispatchers.....		1								1
Investigators.....		1								1
<i>Carried forward.....</i>	12	141	98	73	42	22	20	13	93	514

Grade and Number of Employees.—Concluded.

TITLE.	SERVICES.										Total.
	Central Office.	Paving and Lighting.	Sewer.	Sanitary.	Street Cleaning.	Bridge.	Ferry.	Tunnel.	Water.		
Brought forward.....	12	141	98	73	42	22	20	13	93	514	
Matrons.....								4			4
Engineers (steam).....		9	4					4			17
Oilers.....			6					5			11
Firemen.....		1	4					11			16
Gatemen-Tollmen-guards.....			5					10	34		49
Sergeant-Tollmen-guards.....									4		4
Gatemen-filth hoisters.....			5								5
Meter readers.....										36	36
Drawtenders and assistants.....						147					147
Chief and electricians.....			2						13		15
Master mechanics.....		3		3				1		4	11
Auto mechanic-repairers.....		23	3		1						27
Blacksmiths-horseshoers.....		5	1	11						1	18
Carpenters-joiners.....		3	4	2		12	2				23
Harnessmaker and assistant.....				1							1
Machinists.....			3				2	3	3	7	18
Painters.....		9		6			1	1			17
Pavers.....		22					1				23
Plumbers-pipefitters.....								2		136	138
Boilermakers.....				1							2
Riggers-roofers.....								2			2
Sewer cleaners-flushers.....			25								25
Catch-basins cleaning machine operators.....				7							7
Stonecutters-brick masons.....		4	4	1							9
Wheelwrights and assistants.....				4							4
Head chauffeurs.....		5									5
Chauffeurs, etc.....		72	24	55	91	5		13	36		296
Working foremen, laborers, etc.....		5	2		2	3				1	13
Laborers, teamsters, etc.....		179	42	208	299	4	6	8	61		807
Wharfinger.....				1							1
Yardmen and yardmasters.....		6	3	2	2	1			4		18
Constables.....		9	1		35					10	55
Totals.....	12	496	244	367	472	198	72	88	389	2,338	

Number of Employees Actually Employed January 1, 1945, and January 1, 1946.

	Tunnel.	Central Office.	Bridge.	Ferry.	Water.	Paving and Lighting.	Sanitary.	Street Cleaning.	Sewer.	Total.
January 1, 1945.....	80	11	185	70	382	470	357	379	240	2,174
January 1, 1946.....	82	12	190	71	386	482	362	465	235	2,285

Total Eligible Force.

January 1, 1945.....	85	11	193	72	389	490	363	455	251	2,309
January 1, 1946.....	88	12	198	72	389	496	367	472	244	2,338

Appointments, Transfers, Resignations, Retirements, Deaths, Etc., of Employees.

Died.	Retired.	Transferred to Other Departments.	Transferred to Other Services.	Discharged.	Resigned.	January 11, 1945.	SERVICES. 1945-1946.	January 11, 1946.	Transferred from Other Services.	Transferred from Other Departments.	Reinstated.	Appointed.
....	1	.....	.....	.....	.....	11	Central Office.....	12	1	.....	.....	1
3	6	.....	1	.....	.....	193	Bridge.....	198	.....	.....	2	13
1	2	.....	2	.....	.....	72	Ferry.....	72	1	1	.....	3
9	19	4	9	4	3	490	Paving and Lighting.....	496	19	3	8	24
5	6	3	13	1	7	363	Sanitary.....	367	13	1	6	19
11	8	4	23	....	8	455	Street Cleaning.....	472	10	.....	9	52
2	6	2	5	5	6	251	Sewer.....	244	3	2	6	8
8	10	2	2	3	8	389	Water.....	389	9	1	1	22
....	....	2	3	....	....	85	Tunnel.....	88	2	2	1	3
39	58	17	58	13	32	2,309	Totals.....	2,338	58	10	33	145

**MAINTENANCE APPROPRIATIONS AND
EXPENDITURES.**

DIVISION OR SERVICE.	Total Appropriations, Including Transfers.	Expenditures.	Unexpended Balance.
Central Office	\$36,697 00	\$36,546 56	\$150 44
Bridge Service	456,584 71	453,048 84	3,535 87
Ferry Service	230,669 13	223,651 43	7,017 70
Tunnel Service	299,338 00	288,390 83	10,947 17
Lighting Service	963,298 00	963,164 53	133 47
Paving Service	949,661 06	944,970 95	4,690 11
Sanitary Division	3,412,117 32	3,396,695 64	15,421 68
Sewer Division	405,626 58	398,402 56	7,224 02
Water Division	1,290,891 00	1,166,730 17	124,160 83
Totals	\$8,044,882 80	\$7,871,601 51	\$173,281 29

EXPENDITURES FROM SPECIAL APPROPRIATIONS, ETC.

Bridges, Construction of (revenue)	\$75,185 40
Bridges, Construction of (non-revenue)	59,940 01
Bridges, Repairs, etc. (revenue)	53,213 99
Construction of Buildings and other related objects	25,977 09
Ferry Improvements (revenue)	25,716 27
Reconstruction of Streets (revenue)	125,304 36
Sidewalks, Construction and Reconstruction of (revenue)	43,917 67
Sewerage Works (revenue)	145,738 48
Sewerage Works (non-revenue)	246,722 01
Public Ways, Construction of (non-revenue)	1,596,910 64
Snow Removal	928,049 59
Total	\$3,326,675 51

REVENUE.

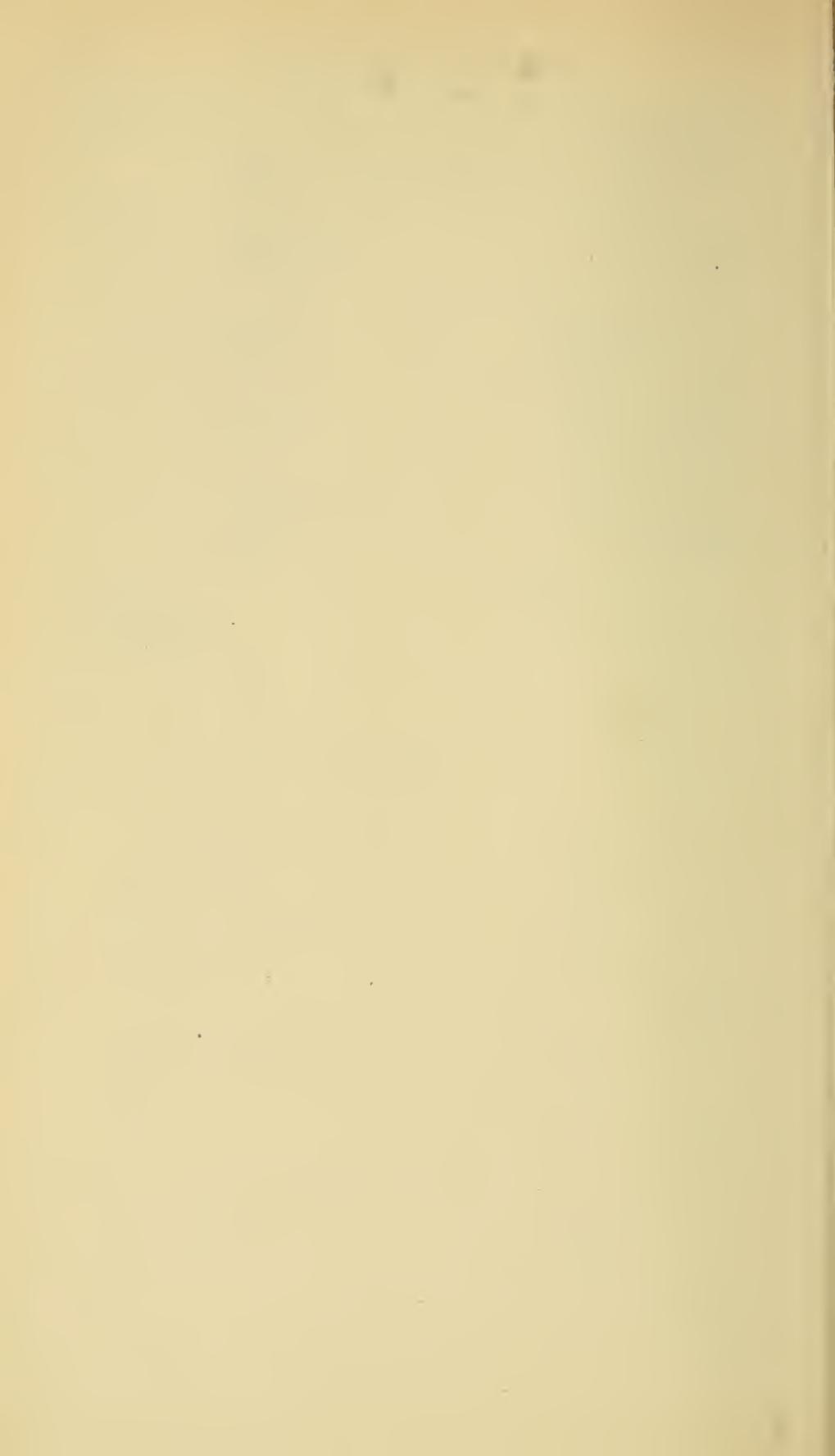
On Account of Public Works Department.

Central Office:		\$832 00
Sale of plans, etc.		
Bridge Service:		
Clerical service	\$250 00	
Chelsea North Bridge	150 00	
Chelsea South Bridge	285 00	
Rents	2,100 00	
Longfellow Bridge	350 00	
Summer Street Bridge	75 10	
		3,210 10
Ferry Service:		
Tolls	\$9,909 02	
Rents	150 00	
Cleaning telephone booths	30 00	
Commission on telephones	33 06	
		10,122 08
Sumner Tunnel:		
Tolls	\$1,455,235 00	
From State	100,000 00	
Refunds	11 18	
		1,555,246 18
Lighting Service:		
Damage to posts		125 00
Paving Service:		
From assessments on abutters for cost of laying sidewalks in front of their premises, including material for same:		
Assessments added to taxes	\$4,264 61	
Assessments paid in advance	301 64	
Permits	14,547 12	
Sale of materials, etc.	1,119 53	
Labor and materials furnished	28 78	
Street openings account	5,484 00	
Junk	115 94	
Rents of signs	270 00	
Repairing signs	8 00	
		26,139 62
Sewer Service:		
Disposal of sewage	\$19,450 00	
Labor and materials furnished	140 42	
Entrance fees	1,728 08	
Junk	221 57	
Rent	80 00	
Freeing drains	135 00	
		21,755 07
Sewerage Works (Assessments under chapter 450, Acts of 1899):		
Added to taxes	\$11,574 98	
Paid in advance	2,245 93	
Unapportioned	600 00	
Serviees of inspector	120 20	
		14,541 11
Carried forward		\$1,631,971 16

PUBLIC WORKS DEPARTMENT.

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<i>Brought forward</i>		\$1,631,971 16
Sanitary Service:		
Collection of commercial waste	\$14,865 73	
Sale of junk	59 70	
Use of trucks	160 00	
		<u>15,085 43</u>
Water Service:		
Water rates	\$5,408,497 40	
Water added to taxes	251,464 05	
Tax titles	35,099 52	
Service pipes for new takers, extending, repairing, etc.	1,766 34	
Fees on overdue rates	63 00	
Sale of junk, etc.	1,944 24	
Elevator and pipe connections	45 38	
Damage to property	1,222 15	
Relocating hydrants	132 02	
Labor and materials	203 73	
Weighing fees, etc.	197 30	
Reimbursement	525 80	
Deposit account	17,582 89	
Installing gates, etc.	275 47	
Refunds	94 00	
Testing meters	11 77	
		<u>5,719,125 06</u>
Grand Total		<u>\$7,366,181 65</u>



PART II.
APPENDICES.

APPENDIX A.

REPORT OF THE DIVISION ENGINEER OF
THE BRIDGE AND FERRY DIVISION.

BOSTON, January 2, 1946.

To the Commissioner of Public Works.

DEAR SIR,— I respectfully submit the following report of the income, expenditures and operation of the Bridge and Ferry Division for the year ending December 31, 1945. The appropriations and expenditures of the division were as follows:

Bridge Service.

Regular appropriation, 1945	\$448,584 71
Transfers to	8,000 00
	—————
Expenditures for 1945	\$456,584 71
	453,048 84
	—————
Unexpended balance, December 31, 1945	<u>\$3,535 87</u>

Bridges, Repairs, Etc.

Balance from 1944	\$9,889 52
1945 appropriation	75,000 00
	—————
Transfers from	\$84,889 52
	23,000 00
	—————
Transfers to	\$61,889 52
	70,000 00
	—————
Expenditures, 1945	\$131,889 52
	53,213 99
	—————
Unexpended balance, December 31, 1945	<u>\$78,675 53</u>

Bridges, Construction of.

Balance from 1944	\$45,518 91
1945 appropriation	2,646,000 00
	<hr/>
Expenditures in 1945	\$2,691,518 91
	135,125 41
	<hr/>
Unexpended balance, December 31, 1945	\$2,556,393 50
	<hr/>

Ferry Service.

1945 appropriation	\$226,669 13
Transferred to	4,000 00
	<hr/>
Total amount available	\$230,669 13
Expenditure	223,651 43
	<hr/>
Balance	\$7,017 70
	<hr/>

Ferry Improvements, Etc., 1945.

Balance from 1944	\$3,635 61
1945 appropriation	35,000 00
	<hr/>
Transferred to B-39	\$4,000 00
Highway	3,200 00
Sanitary	3,000 00
	<hr/>
Total amount available	\$28,435 61
Expenditure	25,716 27
	<hr/>
Carried forward to 1946	\$2,719 34
	<hr/>

Sumner Traffic Tunnel.

1945 appropriation	\$299,338 00
Expenditures, 1945	288,390 83
	<hr/>
Balance	\$10,947 17
	<hr/>

The foregoing does not include certain expenditures for construction work for other divisions and departments, which work was supervised by the engineers of this division.

Under orders of the Department of Public Utilities, Commonwealth of Massachusetts, schedules of tolls and charges for the use of the Sumner Traffic Tunnel,

between Boston Proper and East Boston, were approved, covering the year 1945.

The city has been operating only one ferry, the so-called "South Ferry," since early in 1933, with the Boston terminus at Eastern avenue and the East Boston terminus at Lewis street.

The more important works undertaken during the past year in the Bridge and Ferry Division were construction work on the Allston Bridge; repairs to East Boston approach of Chelsea Street Bridge; repairs to Dorchester Avenue Bridge, over Fort Point Channel; construction work on Sprague Street Bridge; construction work on Summer Street Bridge, over Fort Point Channel; construction work on Fender Pier of Summer Street Bridge, over Reserved Channel; construction work on Boston Street, Dorchester Avenue and Southampton Street Bridges; repairs to public landings at Warren Bridge and Summer Street Bridge, over Fort Point Channel; repairing the steel ferry bridge, South Ferry, south slip, East Boston side; repairing hull, etc. of Ferry-boat "Ralph J. Palumbo"; repairs to 6-inch discharge from sump pump, Sumner Tunnel, cleaning fresh air ducts, Sumner Tunnel, cleaning and painting ventilating fans, Sumner Tunnel, repaving with mastic beds and asphalt joints in Sumner Tunnel; making core borings for Southampton Street Incinerator, etc.

BRIDGE SERVICE.

Allston Bridge, over the Boston and Albany Railroad.

Due to the badly corroded condition of the steel hangers carrying the floor system a contract was entered into on April 25, 1945, between the city and Frederick W. Byron for the replacement of the hangers, general repairs and painting of the bridge. The work was completed on October 5, 1945, at a cost of \$50,584.37.

Emergency Construction Work on the Charlestown Bridge, over the Charles River.

On December 17, 1945, the "S. S. John Hathorn," backing out from the Hoosac Tunnel Docks to make a turn to go into the harbor, through a misunderstanding of signals continued at full speed astern and crashed into span 3 of the Boston approach at 10.05 a. m.

The vessel stayed in position under the bridge for a period of approximately 15 minutes before attempting to

pull out. When the vessel did pull out, the downstream half of the bridge, consisting of three main girders and the entire supported floor system, fell into the water.

The downstream center column support of the Elevated structure was sheared off and left hanging in mid-air, and all traffic was stopped from crossing the bridge.

After inspection of the upstream half of the span by the Commissioner and employees of the Bridge Division, a temporary barrier was erected and single line of roadway and pedestrian traffic was permitted on the U. S. sidewalk and U. S. roadway, in order to moderate the severe traffic congestion which had the city tied up.

An emergency contract was immediately awarded to Coleman Brothers Corporation, without advertising, approved by the Mayor on December 31, 1945, to rebuild the span as originally constructed. Work commenced immediately to remove the torn and twisted steel work from the water and orders were placed for new steel and lumber.

The Boston Elevated Railway Company obtained from the Boston and Maine Railroad Company a double girder from a turntable, with which they spanned the gap between the two piers to support their center column, and had Elevated traffic again running on December 20, 1945.

Work is now progressing rapidly, and it is expected that the break will be repaired within four months at an estimated cost of \$90,000.

*Repairs to Westerly Sidewalk, Span 1,
Charlestown Bridge.*

Due to corrosion, the steel sidewalk brackets and fascia of the sidewalk were found to be in a very bad condition, and on June 26, 1944, the Mayor approved a contract with A. Orlando, Incorporated, the lowest bidder, to make necessary repairs. Work started on the contract June 5, 1944, and was completed June 26, 1944, at a cost of \$2,253.50.

Chelsea Street Bridge, over the Chelsea Creek.

Due to the crumbling of the concrete under and around the end angle on the Boston approach, due partly to the continued pounding of the Boston Elevated cars on the rails, it was considered advisable to place a steel H beam under the rails to support them and also to act

as an end dam for the concrete. A contract was entered into between the city and Daniel Marr & Son Company on January 3, 1945, and the work was completed at a cost of \$1,998.33.

Dorchester Avenue Bridge, over Fort Point Channel.

Due to a break in the roadway of the upstream Boston approach it was necessary to repair the stringers and the roadway plank and repave a considerable area adjacent to the draw crack. A contract was entered into between the city and M. S. Kelliher Company on August 6, 1945, and the work was completed on August 21, 1945, at a cost of \$5,950.08.

Construction Work on the Malden Bridge, over the Mystic River.

Under a contract entered into on June 29, 1942, between the city and A. D. Daddario, for general construction work on the Malden Bridge, the contractor, due to war conditions and inability to obtain the necessary materials, worked on the bridge intermittently. All work was completed on January 31, 1945, at a total cost of \$98,991.51.

Sprague Street Bridge, over the New York, New Haven and Hartford Railroad.

Due to the poor condition of the roadway planking and wearing surface and because the New York, New Haven and Hartford Railroad wished to make necessary repairs to the steel work and to place new wooden stringers, the city entered into a contract with Baker & Co. on June 9, 1945, to redeck with 4-inch T & G yellow pine and substitute an asphalt concrete wearing surface for the old spruce and asphalt plank surface. The work was completed on November 7, 1945, at a cost of \$20,554.49.

Summer Street Bridge, over Fort Point Channel.

On July 31, 1945, a contract was entered into between the city and V. Grande for construction work on the bridge as follows:— Rebuilding about 10 feet of the South Boston approach and the entire Vee of the Boston approach, repairing steel work and redecking both leaves of the draw span, substituting 3-inch spruce

wearing surface for the 2-inch spruce surface then in use. The work was started on August 6, 1945, and by the end of the year the upstream half of the approaches and the upstream leaf of the draw were completed. Payments on the contract in the amount of \$18,194.55 were made to the end of 1945.

Summer Street Bridge, over Reserved Channel.

Due to the collapse of the downstream end of the main pier, as the result of an accident, a contract was entered into between the city and W. H. Ellis & Son Company on July 13, 1945, for rebuilding the pier, beginning at the downstream end of the draw pit and making the pier a little shorter than the original one. Work was started August 7, 1945, and completed October 31, 1945, at a cost of \$16,061.52.

Summer Street Bridge, over Reserved Channel.

A contract with Marinucci Brothers & Co. for construction work on the Summer Street Bridge, over the Reserved Channel, was completed September 29, 1943.

On account of a claim by the contractor against the city, the amount of \$3,790.79 was withheld. It is expected that this claim will be settled and final payment made the contractor early in 1946.

Boston Street, Dorchester Avenue and Southampton Street Bridges, over the New York, New Haven and Hartford Railroad.

Due to the poor condition of the roadway planking and the spruce wearing surface and because the New York, New Haven and Hartford Railroad wished to make necessary steel repairs and place new stringers, the city entered into a contract with Marinucci Brothers & Co., to redeck the bridges as follows:

Boston Street and Dorchester Avenue Bridges with T & G plank, concrete shim and asphalt concrete wearing surface.

Southampton Street Bridge with T & G plank and asphalt concrete wearing surface.

Work started on August 27, 1945, and was partly completed by the end of the year. No payments were made on this contract in 1945.

*Public Landings at Warren Bridge and Summer Street
Bridge, over Fort Point Channel.*

On May 3, 1945, a contract was entered into between the city and Marinucci Brothers & Co., to repair the wooden landing floats at these bridges. After raising the float at Summer Street Bridge which had sunk, it was considered advisable to dispose of it and to properly repair the float from Warren Bridge, which was then placed at Summer Street Bridge. Work was started May 15, 1945, and completed August 29, 1945, at a cost of \$6,385.63.

Snow Removal.

A contract was awarded to Walter Reed Corporation, approved by the Mayor February 12, 1945, for removing snow in the East Boston area. The work was completed February 16, 1945, at a total cost of \$11,666.64.

A contract was awarded to Walter Reed Corporation, approved by the Mayor December 28, 1944, for snow removal in area No. 2. The work was completed February 12, 1945, at a total cost of \$5,926.95.

A contract was awarded to Baker & Co., approved by the Mayor December 28, 1944, for snow removal in area No. 3. The work was completed February 12, 1945, at a total cost of \$7,022.30.

A contract was awarded to Baker & Co., approved by the Mayor February 15, 1945, for snow removal, Roxbury section. Work was completed February 16, 1945, at a total cost of \$6,643.41.

SANITARY DIVISION.

Southampton Street Incinerator.

In connection with studies for a proposed incinerator at Southampton street, Roxbury, it was necessary to make core borings at the location to determine the physical characteristics of the soil for design purposes. Although this work was for the Sanitary Division, the Bridge and Ferry Division handled the contract. A contract was entered into between the city and the Raymond Construction Pile Company on October 22, 1945; work started October 22, 1945, and was completed November 23, 1945, at a cost of \$1,920.60.

Day Labor Force.

The day labor force patched and replaced deck sheathing, headers and sidewalk planking on the various bridges; repaired platforms; refastened treads; cleaned and painted drawhouses and shelter houses; made repairs to drawhouses and controller houses; added to and deducted from counterweights; repaired steps; removed snow and ice from bridges and sanded same; repaired piers; painted fences and gates; did general carpenter work and painting, and made mechanical repairs, etc.; repaired wood block paving; refastened treads on various bridges; repaired and rebuilt gates and various bridges; repaired floats; built and repaired sand boxes; rebuilt coal bins at various bridges; repaired boats; set glass at various drawhouses; made miscellaneous small repairs at various bridges, etc.

The maintenance force cleaned the bridge sidewalks and steps in the intown area of snow and other refuse during the year. Electrical and machinery maintenance was taken care of by the electricians and machinists.

Another duty of the division during the winter months was the supervising and inspecting of snow loading and removal, in common with other divisions of the department. This work was done under contract.

In the course of the year part of the activities of the office force was taken up in work for other divisions and departments of the city. While these efforts, spread over the entire period, did not require a considerable amount of time, the nature of the work was of an advisory and investigating nature.

FERRY SERVICE.

The following ferryboats are in commission:

NAME.	When Built.	Length.	Gross Tons.
Charles C. Donoghue .	1926	174 feet, 4 inches	756.77
Daniel A. MacCormack .	1926	174 " 4 "	756.77
Ralph J. Palumbo .	1930	174 " 4 "	779.00

All these boats are of the propeller type and are all steel boats.

The work of this service for the year consisted of the following:

FERRIES.

Ferryboat "Ralph J. Palumbo."

To continue the ferry service by keeping one boat in commission, a contract was advertised calling for repairs to the "Ralph J. Palumbo." On the date of opening the bids, March 30, no proposals were received due in part to the unsettled conditions in the ship repair yards and in part to the extraordinary demands on the yards by the armed services. Since the ship's papers on the boat running, the "Charles C. Donoghue," expired on June 9, it was necessary to make every effort possible at once, to arrange for repairing the "Ralph J. Palumbo" in order to secure the necessary ship's papers from the United States Coast Guard, Inspection Service. On May 16, a contract was entered into with the Bethlehem Shipbuilding Corporation, to make all necessary repairs to the satisfaction of the United States Coast Guard, Inspection Service. Work under this contract started at once, but, on account of the extent of the work required, it was evident that the boat could not be prepared for service until well after June 9. Under the circumstances, the United States Coast Guard, Inspection Service, was able to cooperate with the city in its efforts to maintain the ferry service uninterrupted and extended the papers of the "Charles C. Donoghue" until the issuing of the "Ralph J. Palumbo's" papers on July 23.

Repairs to the "Ralph J. Palumbo" under the contract were completed June 19, 1945, at a total cost of \$18,092.00.

Repairs to the Steel Ferry Bridge, South Ferry, South Slip, East Boston Side.

A contract was awarded to A. Orlando, Inc., approved by the Mayor, April 25, 1945, for repairing and painting the steel work and redecking the bridge. Work started April 30, 1945, and was completed August 13, 1945, at a cost of \$25,703.77.

Removing Ashes, Cinders, Clinkers and Refuse from Ferryboats.

A contract was awarded to Harry Benson, approved by the Mayor, January 30, 1945, for the removal of

ashes, etc., from the ferryboats. This work was formerly performed by the Public Works Department, but lack of trucks and manpower made it necessary to do it by contract. Work started February 1, 1945, and was completed December 31, 1945, at a cost of \$2,800.

Removing Snow and Ice, East Boston and Boston Plazas.

A contract was awarded to the Rossano Construction Company, for removing snow and ice from the East Boston and Boston Plazas, approved by the Mayor on January 3, 1945. Work started January 9, 1945, and was completed February 15, 1945, at a cost of \$7,797.02.

Department Force.

During the year machinists, carpenters, painters, riggers and electricians, who are included in the personnel of the Ferry Service, made all repairs possible to the plant to the extent of equipment at their disposal. This work consisted mainly of minor repairs to the machinery on the boats, repairs to ferry bridge machinery, ferry bridge roadways and headhouse repairs in general.

SUMNER TRAFFIC TUNNEL.

Repairing Sumner Tunnel Pavement.

A contract was awarded to the Rufo Construction Company, approved by the Mayor on December 29, 1945, for patch paving with mastic bed and asphalt joint, but no work was done during the year.

Cleaning and Painting Ventilating Fans, Etc.

A contract was awarded to Joseph G. Gozzola and approved by the Mayor on September 28, 1945, for cleaning and painting the ventilating fans, etc., at the Boston and East Boston Ventilating Buildings. Work started October 4, 1945, and was completed December 5, 1945, at a cost of \$5,920.

Repairs to 6-inch Discharge Pipe.

A contract was awarded to Ricciardelli Company, approved by the Mayor on April 25, 1945, for repairs to the 6-inch discharge pipe from the sump pump. Work started May 18, 1945, and was completed June 15, 1945, at a cost of \$1,691.84.

Cleaning Exhaust and Fresh Air Ducts.

A contract was awarded to the Rossano Construction Company and approved by the Mayor on August 27, 1945, for cleaning the exhaust and fresh air ducts of the tunnel. Work started August 28, 1945, and was completed September 25, 1945, at a cost of \$1,885.

Summary of Work during 1945.

1. *Personnel.*

During the year 1945 seven men returned from the armed forces of the United States. Six employees were transferred to other city departments; three transfers from other city departments; two on leave of absence.

2. *Vehicular Traffic.*

	1941.	1942.	1943.	1944.	1945.
Total.....	7,362,848	6,770,855	5,715,999	6,449,934	7,223,762
Monthly Average...	614,000	564,238	476,000	536,500	601,980
Weekly Average....	141,700	130,209	110,000	124,000	138,918
Daily Average.....	20,180	18,055	15,650	17,600	19,791

3. *Garage Service.*

	1941.	1942.	1943.	1944.	1945.
Tow jobs.....	97	160	104	185	291

4. *Booth Red Signals.*

	1941.	1942.	1943.	1944.	1945.
Booth, Red On.....	6	6	8	5	7
Total duration.....	45 min.	79 min.	255 min.	56 min.	155 min.

5. *Power.*

The power supply is received from the Boston Edison Company at 13,800 volts, and is transformed to other voltages to operate the fans, pumps, heat and lighting.

	1941.	1942.	1943.	1944.	1945.
Total kilowatts.....	3,177,004	2,912,544	2,813,427	3,104,100	4,097,653
Number of vehicles,	7,362,848	6,770,855	5,715,999	6,449,934	7,223,762

6. *Fires.*

There was one fire in the tunnel during the past year, for a duration of three minutes.

7. *Tunnel, General.*

All blower fans (14) and exhaust fans (14), fan housings and controller cabinets have been cleaned and painted. Cable ducts on south wall have been cleaned and rodded for the New England Telephone and Telegraph Company and are to be rented to them.

Tower clock and cupola have been cleaned and painted.

Repairs were made to the 6-inch discharge line in the fresh air duct of the Tunnel.

All catch-basins in the Tunnel have been cleaned once in the month of March and again in September.

The fresh air ducts and exhaust air ducts in the Tunnel have been cleaned.

Emergency repairs have been made in the roadway. This work was done after midnight, with no interference to vehicular traffic.

8. Motors, Fans, Dampers.

Twenty-eight motors, fans and dampers have been cleaned and adjustments made for efficient operation. Motor controllers were cleaned and adjusted as required and are working properly.

9. Circuit Breakers, Air Type, Oil Type.

During the year all circuit breakers have been adjusted and tested and are in good working condition.

10. Transformers, Relays.

Oil in all transformers has been tested and changed as required. All relays have been adjusted and properly set for efficient operation.

11. Toll Registering Equipment.

All toll registers are in good working condition. Key boxes were repaired as needed. Insulation and pressure tests have been made on all treadles.

12. Carbon Monoxide Equipment.

All four carbon monoxide analizers have been overhauled, adjusted and calibrated as needed. Chemicals are changed and renewed as per schedule of operation.

13. Pumps.

Main harbor pumps and portal pumps were overhauled, cleaned and painted and repaired, and are all in working condition. Valves and piping were renewed as needed.

14. Telephone System.

Defective cords, instruments and coils were replaced as required. All relays have been cleaned and adjusted as needed.

15. Storage Batteries.

Emergency storage batteries are inspected, charged and cleaned at regular intervals.

16. Traffic Signals.

All traffic signal relays and relay panels were cleaned and repaired. Broken glass in signal units was replaced as needed.

17. Motor Generators.

The four motor generator sets are all in good working condition; brushes have been installed as needed; commutators have been undercut and all machines were overhauled and painted.

Yours respectfully,

JOHN DEMEULENAER,
Division Engineer.

BRIDGE SERVICE.

FINANCIAL STATEMENT FOR 1945.

Expenditures on Boston Bridges.

Administration

Engineers, clerks, supervisor, etc.	. . .	\$46,365 44
Veterans' pensions	. . .	\$4,249 98
Laborers' pensions	. . .	360 00

Injured employees	. . . .	4,609 98 26 25

		\$51,001 67

Office:

Printing, postage, stationery	. .	\$1,364 04
Traveling expenses	. .	9 85
Engineers' supplies	. . .	13 77
Office supplies	. . .	75 07
Inspection, typewriters and adding machines	. . .	33 76
Binding	. . . .	13 80

		1,510 29

		\$52,511 96

Yard and stockroom:

Yard:

Clerk, yardman and watchman,	\$10,694 93
Traveling expense	215 85
Holidays and vacations	1,383 22
Tools, new and repaired	740 85
Telephone	159 71
Supplies	932 05
Repairs in yard	51 33
Cleaning bridges	10 43
Snow and sanding	3,495 29
Other services	1,339 58
Auto equipment	5,564 72

	\$24,587 76

Stockroom:

Stock purchased	. . .	\$14,176 66
Stock used	. . .	18,377 28

Decrease in stock	. . . .	4,200 62

		\$20,387 14

Tidewater Bridges, 1945.

BRIDGES.	Drawtenders' Salaries.	Mechanics' Wages.	Material.	Repair Bills.	Supplies.	Totals.
Broadway.....	\$14,646 32	\$1,318 15	\$689 95	\$832 56	\$494 23	\$17,981 21
Charlestown.....	28,674 06	1,762 29	754 45	968 51	657 86	32,817 17
Chelsea North.....	22,755 76	2,620 37	1,698 35	4,079 71	1,249 80	32,403 99
Chelsea South.....	19,396 67	1,680 69	1,229 13	1,303 33	874 22	24,484 04
Chelsea Street.....	22,741 19	470 58	113 98	231 99	855 96	24,413 70
Congress Street.....	18,150 05	1,434 05	373 07	83 75	759 02	20,799 94
Dorchester Avenue.....	16,915 00	4,115 29	2,811 65	1,493 10	523 64	25,858 68
Dover Street.....	14,000 56	1,634 95	2,994 03	731 00	436 30	19,796 84
L Street *.....	19,124 67	1,268 60	156 36	41 42	694 21	21,285 26
Malden.....	21,915 53	448 26	60	14 20	862 90	23,241 49
Meridian Street.....	21,395 69	1,784 58	586 85	1,397 84	626 29	25,791 25
Northern Avenue.....	20,952 22	3,279 85	1,684 11	2,596 50	3,202 08	31,714 76
Summer Street.....	22,056 39	4,846 09	3,246 99	2,935 86	491 65	33,576 98
Warren.....	19,474 58	4,675 98	2,479 96	2,649 45	770 83	30,050 80
Totals.....	\$282,198 69	\$31,339 73	\$18,819 48	\$19,359 22	\$12,498 99	\$364,216 11

* Now Summer Street, over Reserved Channel.

Repairs on Inland Bridges.

BRIDGES.	Labor and Material.
Boylston Street.....	\$103 25
Beacon Street, over Boston & Albany Railroad.....	284 93
Blakemore Street.....	268 53
Boston Street.....	519 04
Boylston Street.....	332 41
Byron Street.....	175 63
Broadway, over New York, New Haven & Hartford Railroad.....	50 77
Cambridge Street, over Boston & Maine Railroad.....	318 17
Central Avenue.....	183 18
Cummins Highway.....	260 09
Dana Avenue.....	255 56
Dartmouth Street (rent \$300).....	660 41
Dorchester Avenue, over railroad.....	388 04
Everett Street.....	436 06
<i>Carried forward.....</i>	\$4,236 07

Repairs on Inland Bridges.—Concluded.

BRIDGES.	Labor and Material.
Brought forward.....	\$4,236 07
Fairmount Avenue.....	103 82
Follen Street (foot).....	63 77
Freeport Street.....	301 65
Gainsborough Street-Camden Street.....	51 25
Glenwood Avenue.....	371 08
Grove Street (foot).....	340 13
Granite Avenue.....	145 52
Huntington Avenue.....	106 83
Irvington Street-Yarmouth Street (foot).....	101 83
Longfellow.....	132 83
Metropolitan Avenue.....	103 47
Milton Street.....	248 24
Mystic Avenue.....	138 35
Neptune Road.....	84 00
New Allen Street.....	165 00
Perkins.....	117 54
Prison Point.....	40 20
Redfield Street.....	70 48
Reservation Road.....	170 93
Southampton Street.....	207 84
Summer Street, over A Street.....	472 18
Summer Street, over B Street.....	712 03
Tollgate Way (foot).....	310 26
Walworth Street.....	27 84
Webster Street.....	37 50
West Fourth Street.....	1,490 82
Winthrop.....	196 39
Other services.....	1,057 26
Total.....	\$11,605 11

SUMMARY.

Administration	\$52,511 95
Yard and stockroom	20,387 14
Tidewater bridges	364,216 11
Inland bridges	11,605 11
Boston and Cambridge bridges	\$448,720 31
Total	4,328 53
	\$453,048 84

SPECIAL APPROPRIATIONS.
BRIDGES, REPAIRS, ETC.

Beacon Street Bridge, over Boston & Albany Railroad:	
Sidewalk repairs	\$245 30
 Broadway Bridge:	
Repairs to stringers	\$875 16
Repairs to steel work	789 46
	<hr/>
	1,664 62
 C Street Stairs:	
Repairs to steel work	915 72
 Charlestown Bridge:	
W. H. Ellis & Son Company	\$6,352 90
Repairs to columns and trusses	537 33
Repairs to paving	158 50
	<hr/>
	7,048 73
 Chelsea North Bridge:	
Kenworthy & Taylor, Inc.	4,839 12
 Chelsea South Bridge:	
New submarine cables (2)	\$602 50
Machinery repairs	261 46
	<hr/>
	863 96
 Chelsea Street Bridge:	
Daniel Marr & Son	1,998 33
 Clarendon Street Bridge:	
Sidewalk repairs	100 75
 Dartmouth Street Bridge:	
Sidewalk repairs	96 26
 Dorchester Avenue Bridge:	
M. S. Kelleher Company	\$5,950 08
Repairs to roadway	3,139 69
Trucking.	48 00
	<hr/>
	9,137 77
 Dover Street Bridge:	
Lumber	\$447 75
Material	200 00
	<hr/>
	647 75
 Durham Street Bridge:	
Lumber	106 21
 Follen Street Bridge:	
Lumber	156 00
	<hr/>
<i>Carried forward</i>	\$27,820 52

<i>Brought forward</i>	. . . . .	\$27,820 52
Gainsborough Street Bridge:		
Lumber	. . . . .	65 00
Irvington Street Bridge:		
Lumber	. . . . .	65 00
Gove Street Bridge:		
Repairs to steel work	. . . . .	65 00
Malden Bridge:		
Repairs to angle and gusset plate	. . . . .	510 63
Meridian Street Bridge:		
Machinery repairs	. . . . .	352 00
Milton Street Bridge:		
Lumber	. . . . .	91 00
Northern Avenue Bridge:		
Lumber	. . . . .	\$3,467 52
Material	. . . . .	294 30
		<hr/>
		3,761 82
Summer Street Bridge, over Fort Point Channel:		
Marinucci Brothers Company, repairs to		
Public Landing	. . . . .	\$1,275 82
Machinery repairs	. . . . .	698 32
Electrical repairs	. . . . .	296 76
New gears	. . . . .	250 12
Advertising	. . . . .	18 87
		<hr/>
		2,539 89
Summer Street Bridge, over Reserved Channel:		
W. H. Ellis & Son Company	. . . . .	\$9,708 62
Remove débris	. . . . .	845 23
Replace sway rods	. . . . .	130 52
		<hr/>
		10,684 37
Tollgate Way Bridge:		
Lumber	. . . . .	169 00
Warren Bridge:		
Marinucci Brothers Company, repairs to		
Public Landings	. . . . .	\$5,110 01
Machinery repairs	. . . . .	1,234 87
Post up girder caps and piles	. . . . .	735 24
Advertising	. . . . .	6 13
		<hr/>
		7,086 25
		<hr/>
		\$53,213 99
		<hr/>

BRIDGES — CONSTRUCTION OF.

Allston Bridge:						
Frederick M. Byron		\$42,996	71			
Advertising		26	50			
						<u>\$43,023 21</u>
Boston Street Bridge:						
Advertising		\$4	58			
Engineering		220	86			
						<u>225 44</u>
Dorchester Avenue Bridge:						
Advertising		\$4	58			
Engineering		220	86			
						<u>225 44</u>
Malden Bridge:						
A. D. Daddario						<u>18,286 37</u>
Meridian Street Bridge:						
Charles Maguire Associates		\$28,909	44			
Borings		152	28			
Analysis of borings		200	00			
Traveling expense		55	35			
Engineering		6,672	00			
						<u>35,989 07</u>
Southampton Street Bridge:						
Advertising		\$4	59			
Engineering		220	95			
						<u>225 54</u>
Sprague Street Bridge:						
Baker & Co.		\$17,471	32			
Advertising		13	50			
						<u>17,484 82</u>
Summer Street Bridge, over Fort Point Channel:						
V. Grande		\$18,124	55			
Advertising		13	50			
Engineering		1,527	47			
						<u>19,665 52</u>
Total						<u>\$135,125 41</u>

SUMMARY.

Expenditures from Special Appropriations.

	Balances from 1944.	Total Credits, Including Balances Carried Over and Transfers.	Expended during Year 1945.	Unexpended Balances, December 31, 1945.
Bridges, repairs, etc.....	\$9,889 52	\$131,889 52	\$53,213 99	\$78,675 53
Bridges, construction of....	45,518 91	2,691,518 91	135,125 41	2,556,393 50
Totals.....	\$55,408 43	\$2,833,408 43	\$188,339 40	\$2,535,069 03

Draw Openings, 1945.

BRIDGES,	STEAMERS,			SAILING VESSELS,			TUGS,			BARGES,			ALL OTHERS,			TOTAL NUMBER OF VESSELS,			TOTAL NUMBER OF CARGOES, OF PENNIES,	TOTAL NUMBER OF OPENINGS,		
	Day.		Night.	Total.	Day.		Night.	Total.	Day.		Night.	Total.	Day.		Night.	Total.						
Broadway.....	594	17	611	43	5	48	462	9	471	1,099	31	1,130	252	585
Charlestown.....	2	.....	2	24	2	26	296	143	439	207	154	361	124	8	132	653	307	960	176	176	285
Chelsea North.....	1,101	180	1,281	.....	.....	.....	9,083	2,800	11,883	2,080	1,234	3,314	495	106	601	12,759	4,320	17,079	1,795	1,795	7,187
Chelsea South.....	66	31	97	.....	.....	.....	1,105	777	1,882	208	273	481	60	64	124	1,439	1,145	2,584	451	451	1,398
Chelsea Street.....	450	214	664	1	.....	1	1,994	775	2,769	885	441	1,326	150	20	170	3,480	1,450	4,930	904	904	3,047
Congress Street.....	68	43	111	.....	.....	1,313	283	1,596	121	36	157	622	48	670	2,124	410	2,534	673	673	1,370	
Dorchester Avenue.....	.....	.....	.....	.....	.....	587	23	610	43	9	52	473	13	486	1,103	45	1,148	249	249	596	
Dover Street.....	.....	.....	.....	.....	.....	609	.....	609	52	.....	52	452	.....	452	1,113	.....	1,113	1,113	251	251	564
L Street *.....	61	24	85	5	20	1,579	592	2,171	148	55	203	2,175	1,519	3,694	3,978	2,195	6,173	6,173	260	260	5,337	
Malden.....	35	19	54	.....	.....	313	114	427	95	43	138	357	22	379	800	198	998	110	110	709	
Meridian Street.....	780	225	1,005	6	.....	6	5,375	1,590	6,965	2,477	1,129	3,606	3,767	462	4,229	12,405	3,406	15,811	2,276	2,276	9,911
Northern Avenue.....	78	41	119	2	.....	2	2,928	620	3,548	129	45	174	1,754	216	1,970	4,891	922	5,813	735	735	2,821
Summer Street.....	82	35	117	.....	.....	1,213	233	1,446	118	42	160	716	43	759	2,129	353	2,482	469	469	1,317	
Warren.....	3	3	6	.....	.....	285	163	448	188	171	359	465	227	692	941	564	1,505	191	191	1,025	
Totals.....	2,726	815	3,541	48	7	55	27,274	8,130	35,404	6,794	3,637	10,431	12,072	2,757	14,829	48,914	15,346	64,260	8,792	8,792	36,152	

* Now Summer Street, over Reserved Channel.

GRANITE AVENUE BRIDGE.*

Drawtenders' salaries		\$3,631 43
Clerk		99 99
Repairs		8 23
Supplies		88 59
		<hr/> <u>\$3,828 24</u>

* One half paid by County of Suffolk and one half by Town of Milton.

Granite Avenue Bridge Draw Openings.

	SAILING VESSELS.			ALL OTHERS.			TOTAL NUMBER OF VESSELS.			Total Number of Cargoes.	Total Number of Openings.
	Day.	Night.	Total.	Day.	Night.	Total.	Day.	Night.	Total.		
Draw Openings.....	8	.....	8	188	3	191	196	3	199	.....	199

FERRY SERVICE.

FINANCIAL STATEMENT FOR THE YEAR ENDING DECEMBER 31, 1945.

Toll Receipts.

Total cash receipts during the year	\$9,906 28
Cash in hands of tollmen at beginning of year,	\$90 00
Cash paid over to City Collector	\$9,906 28
Cash in hands of tollmen, December 31, 1945,	\$90 00

Breakdown of Toll Receipts.

From foot passengers	\$3,765 53
From vehicles	\$6,140 75

	From Foot Passengers.	From Vehicles.	Totals.
Boston side.....	\$1,903 18	\$3,111 80	\$5,014 98
East Boston side.....	1,862 35	3,028 95	4,891 30
Total.....	\$3,765 53	\$6,140 75	\$9,906 28

TRAVEL ON THE SOUTH FERRY FROM JANUARY 1, 1945, TO DECEMBER 31, 1945, INCLUSIVE.

Foot passengers at 1 cent	376,553
Handcart, or wheelbarrow and man.....	5 cents}
Horse and rider.....	5 cents}
Horse and cattle, each with attendant.....	5 cents}
One or two-horse vehicle with driver.....	5 cents}
Motorcycle with driver.....	5 cents}
Trailer.....	10 cents}
Three or four-horse vehicle with driver.....	10 cents}
Passenger automobile with driver and one passenger,	10 cents}
Passenger automobile with driver and more than one passenger.....	15 cents}
Motor truck, six tons or less, with driver.....	15 cents}
Motor truck, over six tons, with driver.....	20 cents}
Auto bus with driver.....	20 cents}
Auto bus with driver and passenger.....	30 cents
Free vehicles.....	63

SUMNER TRAFFIC TUNNEL.

ANNUAL TRAFFIC BY CLASSIFICATION FOR THE YEAR 1945.

CLASSIFICATION.	TOLL.	20 Cents.	20 Cents.	20 Cents.	25 Cents.	20 Cents.	35 Cents.	20 Cents.	1 Dollar.	35 Cents.	* City Owned.	Total Traffic.
	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	No. 6.	No. 7.	No. 8.	No. 9.			
January.....	20,284	372,018	19	3,499	286	856	8	20	15,402	28,878		441,270
February.....	20,278	322,699	28	2,856	285	759	3	23	12,704	27,801		387,436
March.....	23,546	461,637	71	3,732	401	964	7	39	16,435	30,516		537,348
April.....	24,187	474,189	151	3,198	506	684	12	22	18,005	28,685		549,639
May.....	26,767	522,247	154	2,656	616	762	26	17	18,228	32,593		604,066
June.....	25,929	607,419	284	2,770	793	927	11	15	15,925	30,710		684,783
July.....	25,287	724,785	341	2,517	848	780	19	20	16,635	28,158		799,390
August.....	35,153	679,110	240	2,333	925	734	15	19	7,259	35,269		761,057
September.....	22,357	572,946	241	1,751	715	551	50	11	2	39,785		638,409
October.....	25,048	582,928	94	2,408	686	737	33	21	1	40,300		652,236
November.....	22,952	544,423	91	2,414	701	1,004	22	11	4	39,517		611,139
December.....	27,319	486,856	25	2,630	567	823	96	12	1	39,443		557,772
Totals.....	299,107	6,351,257	1,739	32,764	7,329	9,581	302	230	120,601	* † 401,655		7,224,565

* Includes 164,220 Military Vehicles from January 1, 1945, to December 31, 1945, inclusive, at the rate of 20 cents.

*† In August, 1945, the Boston Elevated Railway and the Eastern Massachusetts Railway were permitted to send their busses through lane marked "City Owned." This total includes 71,622 busses from August to December 31, 1945, at the rate of 35 cents.

SUMNER TRAFFIC TUNNEL.

TOLL CLASSIFICATIONS.

Class 1.	\$0.20	Truck not in excess of two tons capacity. Tractor without trailer.
Class 2.	0.20	Passenger car.
Class 3.	0.20	Motorcycle.
Class 4.	0.25	Truck over two tons and up to five tons capacity. Tractor with trailer over two tons and up to five tons capacity.
Class 5.	0.20	Passenger car with trailer.
Class 6.	0.35	Truck over five tons and up to ten tons capacity. Tractor with trailer over five tons and up to ten tons capacity.
Class 7.	0.20	Tractor with trailer not in excess of two tons capacity.
Class 8.	1.00	Truck over ten tons capacity. Tractor with trailer over ten tons capacity.
Class 9.	0.35	Bus with or without passengers.

SUMNER TRAFFIC TUNNEL.

Comparison of Receipts, Expenditures, Interest and Sinking Fund Requirements, 1941 to 1945, Inclusive.

	1941.	1942.	1943.	1944.	1945.
Expenditures.....	\$232,802 62	\$253,169 54	\$243,257 21	\$260,220 64	\$288,390 83
Interest Requirements.....	831,400 00	830,487 50	825,995 00	836,411 25	831,540 00
Sinking Fund Requirements.....	204,981 00	271,577 00	272,549 00	273,024 00	265,107 00
Total Expenditures.....	\$1,269,183 62	\$1,355,234 04	\$1,341,801 21	\$1,369,655 89	\$1,385,037 83
Receipts.....	1,110,428 47	991,160 64	1,026,227 33	1,288,104 38	1,455,246 18
Deficits.....	\$158,755 15	\$364,073 40	\$315,573 88	\$81,551 51	\$70,208 35
Transferred from toll receipts to primary sinking fund requirements.....			136,627 61		(Excess)
1944 deficit.....				\$218,179 12	
Carried forward to cover contract.....					6,293 00
To Sinking Funds.....					\$63,915 35

SUMNER TRAFFIC TUNNEL.

Comparative Traffic Count.

	1941.	1942.	1943.	1944.	1945.
January.....	402,754	528,392	354,106	440,178	441,270
February.....	422,704	499,935	357,103	423,318	387,436
March.....	472,748	580,371	465,245	455,999	537,348
April.....	543,507	609,665	444,604	471,847	549,639
May.....	680,203	628,151	498,689	590,106	604,066
June.....	740,337	652,020	487,746	650,255	684,783
July.....	794,095	642,056	557,116	680,787	799,390
August.....	766,717	574,917	568,911	631,264	761,057
September.....	656,450	543,220	542,060	572,112	638,409
October.....	667,694	536,787	502,399	519,426	652,256
November.....	600,123	510,650	470,066	502,798	611,139
December.....	615,516	464,691	467,954	511,844	557,772
Totals.....	7,362,848	6,770,855	5,715,999	6,449,934	7,224,565

APPENDIX B.

REPORT OF THE DIVISION ENGINEER OF THE HIGHWAY DIVISION.

BOSTON, January 2, 1946.

To the Commissioner of Public Works.

DEAR SIR,— I submit a report of the operations and expenditures of the Highway Division for the year ending December 31, 1945.

The following is a summary of the budget appropriations for 1945 for the below-mentioned items:

Maintenance.

Appropriation for 1945	\$907,661 06
Transfers to this appropriation	42,000 00
	<hr/>
	\$949,661 06
Amount expended	944,970 95
	<hr/>
Balance unexpended	<u>\$4,690 11</u>

The amount of money taken in through the Permit Office of the Paving Service was \$14,601.27. Of this amount \$12,908.27 was deposited with the City Collector and \$1,693 was billed to Public Service Corporations. There are now on file 1,852 bonds for use of streets and sidewalks covering the City of Boston against claims for damages, etc., through the use of permits.

The regular forces of the Paving Service were employed as usual in the maintenance of all public streets, resurfacing and patching macadam pavements, patching all permanent pavement such as asphalt, granite blocks, etc., and taking care of all gravel, brick and artificial stone sidewalks.

Contracts were let for the construction and reconstruction of one hundred and sixty-eight streets during the year. Artificial stone sidewalks were installed on fifteen of these streets.

Some of the most important thoroughfares reconstructed during the year were as follows:

Cambridge street, Brighton, Soldiers Field road to Boston & Albany Railroad.

Cummins Highway, West Roxbury, Hyde Park avenue to Washington street.

Beacon street, Brookline line across Cleveland Circle.

Chestnut Hill avenue, Brighton, Wiltshire road to Brookline line.

Dudley street, Roxbury, Putnam street to Guild row.

Vermont street, West Roxbury, Corey street to La Grange street.

Walter street, West Roxbury, Weld street to South street.

Centre street, West Roxbury, Manthorne road to Mt. Vernon street.

Cummins Highway, West Roxbury, Hyde Park avenue to Mattapan square, Dorchester.

Cambridge street, Charlestown, Rutherford avenue to Somerville line.

LIGHTING SERVICE.

The following is a statement of the work done during 1945 under the supervision of the Division Engineer:

The Lighting Service Appropriation of the Highway Division called for \$963,298, and \$963,164.53 was expended, leaving a balance of \$133.47.

Mazda lamps of 1,000 c.p. were installed as follows: Newbury street (2), St. Cecilia Street (2), Belvidere street (1), Scotia street (1), Dover Street Bridge (2), City Proper; Bunker Hill street (1), Charlestown; Dorchester avenue (1), Park street (1), Dorchester; Central square (2), New street (3), East Boston; Brookline avenue (1), Huntington avenue (1), Roxbury; Washington street (1), Hyde Park avenue (1), West Roxbury.

One 600 c.p. mazda lamp was installed on Beacon street, City Proper.

Mazda lamps of 400 c.p. were installed as follows: Stanton street (1), Dorchester; Pilgrim road (1), Short street (1), Vernon street (2), Roxbury.

Five 250 c.p. mazda lamps were installed on Alleghany street, Roxbury.

Mazda lamps of 80 c.p. were installed as follows: Higgins street (1), Brighton; Tremont street (3), Charlestown; Everett street (1), Lenoxdale avenue (1), Har-

mon street (1), Tennis road (1), Rockdale street (1), Victory road (9), East street (6), Wilkinson park (2), Glendale street (2), Rangeley street (2), Tenean street (12), Matthews street (1), Sanford street (7), Dean street (1), Richmond street (8), Centre street (7), Dorchester; Everett court (1), Sumner place (1), East Boston; Dalrymple street (5), Allerton street (1), Viola street (1), Lambert avenue (10), Harold street (1), Rock street (1), Delle avenue (1), Roxbury; Lincoln street (1), Woodland road (1), Davison street (1), Tileston street (2), Beaver street (2), Linden street (1), Summit street (3), Gwinnett street (1), Hyde Park; Pomona avenue (1), Welles park (1), Myles Standish road (2), Delford street (1), Dale street (10), Johnswood road (1), West Roxbury.

Mazda fire alarm lamps were installed as follows: Cummins Highway (1), Wood avenue (1), Dorchester; Wood avenue (3), Hyde Park; Park street (1), Cummins Highway (1), Washington street (1), West Roxbury.

Owing to war conditions there was no prescribed underground district for the year of 1945.

Yours respectfully,

R. C. DWYER,
Division Engineer.

TABLE SHOWING LENGTH AND AREA OF PAVING ON ACCEPTED STREETS, CORRECTED TO JANUARY 1, 1946.

	LENGTH IN MILES.										AREA IN SQUARE YARDS.											
	Sheet Asphalt.	Asphalt Concrete.	Granite Block.	Wood Block.	Plank on Bridges.	Brick.	Concrete.	Macadam.	Gravel.	Not Graded.	Totals.	Sheet Asphalt.	Asphalt Concrete.	Granite Block.	Wood Block.	Plank on Bridges.	Brick.	Concrete.	Macadam.	Gravel.	Not Graded.	Totals.
Year 1944 Report.....	* 145.68	† 211.17	‡ 71.53	0.66	0.71	0.97	\$28.08	|| 235.13	14.49	1.65	710.07	* 2,830,247	† 4,073,278	‡ 1,905,518	14,115	15,923	21,366	§ 574,513	|| 3,842,719	226,229	48,763	13,552,731
Per Cent.....	20.52	29.74	10.07	0.09	0.10	0.14	3.96	33.11	2.04	0.23	100.00	20.88	30.06	14.06	0.10	0.12	0.16	4.24	29.77	1.67	0.36	100.00
JANUARY 1, 1946.																						
City Proper.....	35.05	27.83	24.55	0.27	0.13	0.40	3.23	4.78	0.22	.....	96.46	725,371	632,272	548,289	3,612	3,750	6,685	114,870	76,228	1,563	.....	2,112,640
Charlestown.....	1.50	4.59	9.12	0.08	0.07	.....	1.07	6.30	.....	0.01	22.74	29,372	71,564	222,761	2,011	1,999	.....	22,768	89,345	80	41	439,941
East Boston.....	3.81	11.41	5.05	0.01	0.05	0.04	1.08	14.16	0.69	0.04	36.34	85,194	231,113	121,919	325	777	771	35,891	303,470	13,944	865	800,269
South Boston.....	8.39	11.11	10.31	0.04	0.19	0.12	0.64	12.71	0.17	0.96	44.64	166,454	218,253	285,717	1,255	4,797	2,986	19,090	221,692	2,686	25,029	947,959
Roxbury.....	25.24	26.15	11.28	0.10	.....	0.14	6.60	23.74	0.92	.....	94.17	456,093	488,118	288,092	2,689	.....	5,438	113,627	348,707	12,520	61	1,715,345
West Roxbury.....	29.85	47.58	3.41	0.01	0.07	.....	5.35	54.38	1.50	0.32	142.47	591,810	838,185	152,987	210	1,380	.....	76,077	842,531	24,503	10,351	2,538,034
Dorchester.....	35.01	58.68	6.76	0.06	0.06	0.27	6.49	58.89	2.62	0.07	168.91	653,619	1,040,332	190,995	1,669	1,242	5,479	117,131	922,737	42,333	2,341	2,977,878
Brighton.....	12.51	32.34	0.57	.....	0.08	.....	2.30	15.12	0.57	.....	63.49	279,743	599,438	70,974	958	1,231	.....	50,645	257,304	8,626	2,820	1,271,742
Hyde Park.....	1.15	9.05	0.05	0.09	0.05	.....	0.94	23.05	6.80	0.24	41.42	27,408	196,440	8,224	1,384	747	17,373	392,592	104,468	7,255	.....	755,891
Totals.....	152.51	228.74	71.10	0.66	0.70	0.97	27.70	213.13	13.49	1.64	710.64	3,015,064	4,315,715	1,889,958	14,113	15,923	38,732	942,694	3,172,482	113,510	41,508	13,559,699
Per Cent.....	21.46	32.19	10.00	0.09	0.10	0.14	3.90	29.99	1.90	0.23	100.00	22.23	31.83	13.94	0.10	0.12	0.28	6.95	23.40	0.84	0.31	100.00

TOTAL PUBLIC STREETS 710.64 MILES.

NOTE.— In the above table the city is subdivided substantially on the boundary lines between the districts as they existed when annexed to Boston. Territory annexed from Brookline included in City Proper.

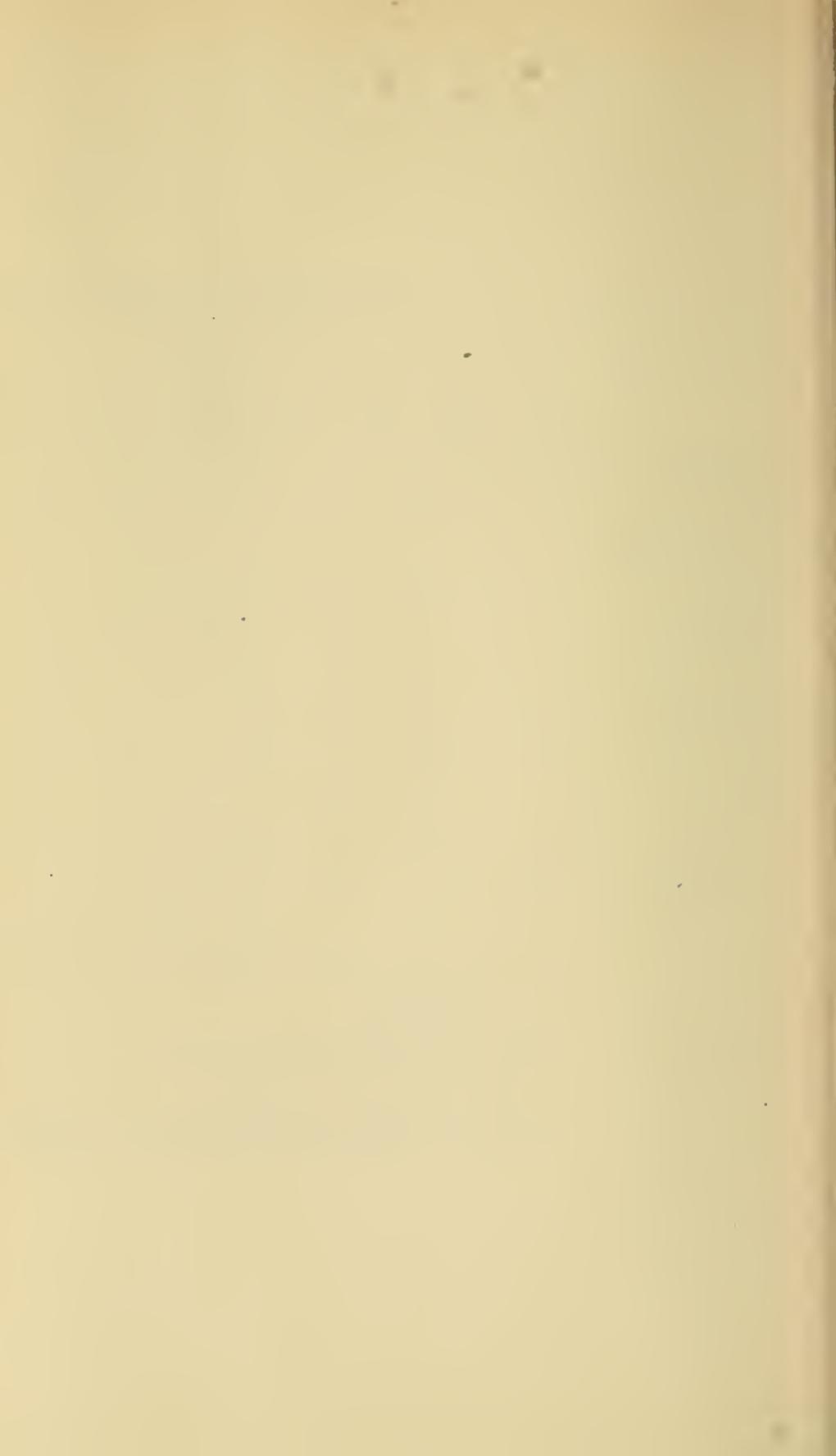
* Of this amount 0.10 mile or 834 square yards is Biturock; and 0.00 mile or 310 square yards is Uniorite.

† Of this amount 0.02 mile or 185 square yards is Cobble; and 47.60 miles or 1,452,549 square yards is granite block paving on concrete base.

‡ Of this amount 0.06 mile or 924 square yards is Blome granitoid concrete block.

|| Of this amount 178.49 miles or 2,926,136 square yards is bituminous macadam. 6.66 miles or 35,444 square yards public alleys included in this table; 7.40 miles or 333,050 square yards public streets in charge of Park Department included in this table; 7.06 miles or 237,812 square yards public streets in charge of Commonwealth of Massachusetts included in this table. In addition to this table there are 2.11 miles or 11,261 square yards of accepted footways.

§ Of this amount 119.00 miles or 2,084,272 square yards is asphalt concrete; and 101.10 miles or 2,068,187 square yards is Bitulithic; and 0.02 mile or 4,973 square yards is Colprovia; and 0.06 miles or 942 square yards is Fibertiment; and 0.00 mile or 0 square yards is Elastite; and 0.00 miles or 0 square yards is Elastite asphalt plank; and 0.00 miles or 4,167 square yards is Macasphalt; and 0.21 miles or 5,200 square yards is Simaseo; and 7.96 miles or 128,703 square yards is Topeka; and 0.00 mile or 4,153 square yards is Warcolite; and 0.18 mile or 3,474 square yards is Carey Elastite asphalt plank; and 0.10 mile or 1,234 square yards is Johnn-Manville asphalt plank.



HIGHWAY DIVISION — PAVING SERVICE.

Work Done by Contract, 1945.

Type of Work.

Earth excavation	96,278 cubic yards.
Rock and wall excavation	625 cubic yards.
Bank gravel filling	9,843 tons.
Crushed stone	2,745 tons.
Old concrete base removal	6,748 square yards.
Old pavement removal	157,770 square yards.
Scarfing	45,129 square yards.
Fine grading	50,821 square yards.
Straight edgestone set	10,592 linear feet.
Circular edgestone set	3,126 linear feet.
Edgestone reset	60,765 linear feet.
Class B concrete laid (cubic yards)	1,955 cubic yards.
Class B concrete laid (square yards)	92,781 square yards.
Extra conerete laid	503 cubic yards.
Bituminous macadam base	175,513 square yards.
Bituminous macadam pavement	1,190 square yards.
Granite block pavement	5,722 square yards.
Sheet asphalt pavement	149,289 square yards.
Sheet asphalt top	7,789 tons.
Sheet asphalt binder	11,920 tons.
Bituminous concrete pavement	292,784 square yards.
Bituminous concrete pavement	4,552 tons.
Cement concrete pavement	1,069 square yards.
Artificial stone sidewalks and driveways	524,316 square feet.
Brick sidewalks	4,357 square yards.
Bituminous concrete sidewalks	2,817 square yards.
Artificial stone foundation	2,545 cubic yards.
Covers reset	3,653

YEARLY REPORT OF WORK DONE BY DEPARTMENT
FORCES FOR 1945.

Brick sidewalks, laid and relaid	6,893 square yards.
Gravel sidewalks, relaid	15,642 square yards.
Granolithic sidewalks, laid (new)	20,341 square feet.
Granolithic sidewalks, relaid (old)	84,388 square feet.
Tar sidewalks	18,461 square yards.
Block gutters, laid	188 square yards.
Granite block roadway, laid	938 square yards.
Edgestone, set (new)	219 linear feet.
Edgestone, reset (old)	4,343 linear feet.
Macadam roadway, patched	106,431 square yards.
Macadam roadway, resurfaced	13,033 square yards.
Street cleaning	47,196 cubic yards.
Snow removal	452,174 cubic yards.

Objects of Expenditures from Maintenance Appropriation, Classified by Districts, from January 1, 1945, to December 31, 1945.

Districts.	Macadam Repairs.	Granolithic Sidewalk Repairs.	Removal of Snow.	Street Cleaning.	Edgestone, Sidewalk and Gutter Repairs.	Bituminous Sidewalk Repairs.	Miscellaneous.	Total.
South Boston and Dorchester North	\$5,501 90	\$8,171 45	\$6,077 68	\$2,187 89	\$6,059 03	\$1,267 68	.....	\$29,565 63
East Boston.....	6,262 39	1,421 08	3,675 92	5,134 66	1,915 04	927 72	.....	19,636 81
Charlestown.....	3,305 89	4,842 34	3,578 94	2,235 64	2,722 73	3,920 86	.....	20,606 40
Brighton.....	6,447 15	3,595 89	10,172 98	15,423 45	1,337 88	929 26	.....	37,906 61
West Roxbury	18,553 97	9,200 26	13,520 59	18,895 61	2,278 47	1,664 59	.....	64,113 49
Dorchester.....	9,102 08	6,583 79	7,213 91	2,137 95	1,143 15	4,409 36	.....	30,590 24
Roxbury South and Jamaica Plain	13,218 73	12,072 81	8,227 58	3,576 72	1,606 23	705 00	.....	39,407 07
City Proper.....	27,868 45	14,386 75	10,249 16	1,747 66	7,668 95	.....	.....	61,920 97
Ashmont.....	10,364 95	8,334 11	9,445 40	4,305 77	3,171 94	.....	.....	35,622 17
Hyde Park.....	4,180 18	740 75	6,452 37	4,200 59	4,423 11	3,222 63	.....	23,219 63
Totals.....	\$104,805 69	\$69,349 23	\$78,614 53	\$60,445 94	\$32,326 53	\$17,047 10	\$582,381 93	\$944,970 95

Miscellaneous includes: Street signs, \$17,600.30; sanding icy streets, \$7,882.35; fence repairs, \$6,881.98; granite block roadway repairs, \$1,836.09; F-11, \$2,421.30; F-7, \$9,504.09; miscellaneous, \$534,205.82.
 Special Appropriations: Public Works Construction of (non-revenue), \$1,596,910.64; Reconstruction of Streets (revenue), \$125,304.36; Sidewalks, Construction and Reconstruction of (revenue), \$43,917.67; Snow Removal (revenue), \$828,049.59.
 Total, Maintenance and Specials, \$3,639,153.21. (E. C. A., \$46,898.50.)

PERMIT OFFICE ACTIVITIES, 1945.

Under classes 1 and 2 of the schedule of permit fees, permits were issued for openings in public ways as follows:

City departments	1,912
Public service corporations	1,069
Emergency permits for same	1,453
	<hr/>
Permits for street openings	612
Occupation permits for building repairs, painting and signs	1,982
Sign work	255
Special permits	302
Awning work	47
Raising safes and machinery	41
	<hr/>
Total of all permits	3,239
	<hr/>
	7,673

Fees received, \$14,601.27. Deposited with City Collector, \$12,908.27. Billed to public services, \$1,693.

BONDS.

There are now on file 1,852 bonds covering the city against claims that may be made on account of permits issued.

APPENDIX C.

REPORT OF THE DIVISION ENGINEER OF THE
SANITARY DIVISION.

BOSTON, January 2, 1946.

MR. ROBERT P. CURLEY,
Commissioner of Public Works.

DEAR SIR,—I submit herewith a statement of the activities and expenditures of the Sanitary Division for the year ending December 31, 1945:

Maintenance expenditures	\$3,396,695	64
Emergency compensation allotments	77,578	48
<hr/>		
Cost	\$3,474,274	12
<hr/>		
I. Waste collection and disposal (Table I)	\$2,382,848	95
(a) By contract (Table II)	1,596,851	68
(b) By day labor (Table III)	785,997	27
<hr/>		
II. Street cleaning (Table IV)	\$939,905	20
III. Not directly chargeable to 1945 operation	\$151,519	97
(a) For other services	3,788	86
(b) Pensions	14,456	35
(c) Injured roll	6,681	41
(d) Salvage (paper)	40,204	29
(e) Preventive street cleaning	58,065	68
(f) Special clean-up	28,323	38
<hr/>		
Personnel changes in permanent force:		
Total personnel, January 1, 1945	*851	
Transfers from other departments and divisions	12	
New appointments	66	
Reinforcements	14	
	—	92
	—	943
<hr/>		
Deaths	17	
Resignations	15	
Retirements	13	
Transfers out	29	
Discharged or terminated	9	
	—	83
<hr/>		
Total personnel, January 1, 1946	†860	

* Including 8 military leaves.

† Including 2 military leaves

The maintenance expenditures of the Sanitary Division for the year 1945 show an increase of approximately \$303,000 over those for the year 1944. This increase can be broken down into two main items as follows:

(a) In the item for the Collection and Removal of Refuse and Garbage by contract, there was an increase of about \$137,000. This was caused by a shortage of manpower, union demands for higher compensation, lower efficiency and inability to sublet the sale of garbage to hog raisers.

(b) In the Personal Service item, there was an increase of about \$141,000, which was accounted for as follows: From the beginning of the year 1945, the foremen and inspectors received an increase in salary of \$300 per annum, but the \$200 E.C.A. was eliminated, giving to this group a net increase of \$100 per annum. For the last six months of 1944, the chauffeur-laborer-mechanic group received an increase of 50 cents per day. At the same time the E.C.A. was reduced from \$200 to \$100 per annum, making a net increase of about \$56 a year per man for this group. The 1945 total includes this increase for the whole year as against only six months of 1944.

Although the war ended August 14, the collection of paper for salvage, under the direction of the Boston Salvage Committee, continued until the end of the year.

Respectfully submitted,

ADOLPH J. POST,
Division Engineer.

TABLE I.
Amount Expended for the Collection and Disposal of Ashes and Garbage by Districts, 1945.

Number.	District.	Population.	MIXED REFUSE.		GARBAGE.		Total Cost.	Per Capita.
			Cost.	Per Capita.	Cost.	Per Capita.		
1.	South Boston.....	56,247	\$143,395 35	\$2 549	\$13,381 82	\$0 246	\$157,227 17	\$2 795
2.	East Boston.....	55,112	94,082 80	1 707	3,843 33	0 070	97,926 13	1 777
3.	Charlestown.....	25,655	66,308 70	2 585	3,892 20	0 151	70,200 90	2 736
4.	Brighton.....	66,808	98,857 10	1 480	8,684 77	0 130	107,541 87	1 610
5.	West Roxbury and Jamaica Plain.....	89,621	160,455 52	1 790	26,956 50	0 300	187,412 02	2 090
6.	Dorchester.....	217,047	451,470 27	2 080	70,099 56	0 323	521,569 83	2 403
7a.	Elm Hill.....	34,489	215,355 50	6 244	—	—	215,355 50	6 244
7.	Roxbury.....	68,825	184,880 73	.2 686	20,069 18	0 291	204,949 91	2 977
7b.	Dudley.....	42,495	272,623 05	6 415	—	—	272,623 05	6 415
7c.	Mission Hill (Roxbury).....	22,042	76,939 70	3 491	—	—	76,939 70	3 491
9.	South End.....	20,144	124,780 85	6 194	—	—	124,780 85	6 194
9a.	Back Bay.....	42,232	298,018 72	7 057	—	—	298,018 72	7 057
9b.	Stuart.....	25,669	39,537 33	1 540	8,765 97	0 342	48,303 30	1 882
	Totals.....	766,386	\$2,228,516 33	\$2 908	\$154,332 62	\$0 201	\$2,382,848 95	\$3 109

TABLE II.
Cost of Collection and Disposal of Refuse by Contract in City of Boston, 1945.

CONTRACT DISTRICT,	CONTRACTOR,	CHARACTER OF REFUSE,	Cubic Yards.	Cost per District.	Cost per Cubic Yard.	Population.	Total Cost per Capita.
South Boston.....	Ward General Contracting Company...	Mixed refuse.....	72,839	\$143,395.35			
		Garbage.....	7,026	13,831.82			
		Totals.....	79,865	\$157,227.17	\$1 9686617	56,247	\$2 795
East Boston.....	Edward J. McHugh & Son.....	Mixed refuse.....	78,408	\$94,082.80			
		Garbage.....	3,203	3,843.33			
		Totals.....	81,611	\$97,926.13	\$1 1999133	55,112	\$1 777
* Charlestown.....	Edward J. McHugh & Son.....	Mixed refuse.....	38,962	\$66,308.70			
		Garbage.....	2,287	3,892.20			
		Totals.....	41,249	\$70,200.90	-\$1 7018812	25,655	\$2 736
Brighton.....	Anthony J. Ryan, Inc.....	Mixed refuse.....	93,396	\$98,857.10			
		Garbage.....	8,205	8,684.77			
		Totals.....	101,601	\$107,541.87	\$1 0584725	66,808	\$1 610
West Roxbury and Jamaica Plain,	John J. Moore Company.....	Mixed Refuse.....	104,262	\$160,455.52			
		Garbage.....	17,516	26,956.50			
		Totals.....	121,778	\$187,412.02	\$1 5389645	89,621	\$2 090

* Disposal of garbage and refuse to Coleman Disposal Company.

TABLE II.—Concluded.
Cost of Collection and Disposal of Refuse by Contract in City of Boston, 1945.

CONTRACT DISTRICT.	CONTRACTOR.	CHARACTER OF REFUSE.	Cubic Yards.	Cost per District.	Cost per Cubic Yard.	Population.	Total Cost per Capita.
† Dorchester and Elm Hill	Coleman Brothers Corporation	Mixed refuse	355,672	\$451,470 27			
		Garbage	55,225	70,099 56			
		Totals	410,897	\$521,569 83	\$1 263,444	217,047	\$2 403
* Dudley and Mission Hill	Marinucci Brothers & Co.	Mixed refuse	96,433	\$184,880 73			
		Garbage	10,468	20,069 18			
		Totals	106,901	\$204,949 91	\$1 917,193.5	28,825	\$2 977
* Back Bay	Dooley Brothers, Inc.	Mixed refuse	43,184	\$76,939 70			
		Garbage	—	—			
		Totals	43,184	\$76,939 70	\$1 781,671.4	22,042	\$3 491
* Stuart	Capitol Contracting Company	Mixed refuse	115,914	\$124,780 85			
		Garbage	—	—			
		Totals	115,914	\$124,780 85	\$1 076	20,144	\$6 194
Hyde Park	Thomas E. Bryan	Mixed refuse	25,790	\$39,537 33			
		Garbage	5,718	8,765 97			
		Totals	31,508	\$48,303 30	\$1 533,048.7	25,669	\$1 882
Totals	(Mixed refuse)	1,024,860	\$1,442,519 06				
	Garbage	109,648	154,332 62				
	Totals	1,134,508	\$1,596,851 68	\$1 407,527.9	647,170		\$2 467

* Disposal of garbage and refuse to Coleman Disposal Company.

† Disposal of garbage only to Coleman Disposal Company.

TABLE III.
Cost of Collection and Disposal of Refuse by Day Labor Force in the City of Boston for the Year Ending December 31, 1945.

Member No.	DISTRICT AND POPULATION.	CHARACTER OF REFUSE.	Cubic Yards.	Cost per Cubic Yard.			TOTAL COST.		Total Cost, Collection and Disposal.	Total Cost Per Capita.
				To Collect.	For Disposal.	Collection and Disposal.	Cost to Collect.	Cost for Disposal.		
7.	Roxbury (34,489)	Mixed refuse.....	80,993	\$2 0815	\$0 5774	\$2 6389	\$168,587 39	\$46,768 11	\$215,355 50	\$6 244
9.	South End (42,495).....	Mixed refuse.....	72,073	3 2052	0 5774	3 7826	231,005 65	41,617 40	272,623 05	6 415
10.	North and West Ends (42,232) ..	Mixed refuse.....	115,289	2 0075	0 5774	2 5849	231,446 96	66,571 82	298,018 72	7 057
	Totals (119,216).....	Mixed refuse.....	268,355	\$2 3515	\$0 5774	\$2 9289	\$631,039 94	\$154,957 33	\$785,997 27	\$6 593

TABLE IV.
Street Cleaning Service, 1945.
Distribution of Expenditures.

Removing snow	\$93,721 83
Brooming	521,345 00
Pusheart patrol	202,958 37
Refuse box collections	50,585 51
Motor sweeping	40,932 86
Flushing	6,654 88
Night emergency	2,499 42
Sanding	138 83
Garage and miscellaneous	21,068 50
Total	<u>\$939,905 20</u>

APPENDIX D.

REPORT OF THE DIVISION ENGINEER OF
THE SEWER DIVISION.

BOSTON, January 2, 1946.

To the Commissioner of Public Works.

DEAR SIR,—I submit herewith statement of the activities and expenditures of the Sewer Division for the year ending December 31, 1945.

During the fiscal year 1945, there were built by contractors and day labor 1.21 miles of common sewers and surface drains throughout the city. After deducting 0.20 mile of sewers and surface drains, rebuilt or abandoned, the net increase for 1945 is 1.01 miles, which, added to the existing 1,222.51 miles of common sewers and surface drains and 30.93 miles of intercepting sewers, makes a grand total of 1,254.45 miles of all sewers belonging to the City of Boston, and under the care of the Sewer Division on January 1, 1946.

There were 59 catch-basins built or rebuilt and 11 abandoned or removed during the year, making a net gain of 48 catch-basins and a grand total of 22,634 catch-basins under the care of the Sewer Division on January 1, 1946.

Entrance fees to the amount of \$1,730.08 have been deposited with the City Collector for collection from estates upon which no sewer assessments were ever paid, in accordance with Ordinances of 1925, chapter 27, section 10.

394 permits have been issued, viz.: 179 to district foremen and contractors and 215 to drainlayers for repairing or laying new house drains. Inspectors from this office have personally inspected the work done under these drainlayers' permits.

2,492 complaints have been investigated, and inspectors are instructed to report in writing in each case.

1,152 catch-basin complaints were received.

Reported in writing on 2,919 municipal liens to the City Collector, in accordance with chapter 60, section 25, of the General Laws. Reported orally on about 2,500 requests for information on municipal liens.

Notices have been mailed to abutters in conformity with the Ordinances, chapter 27, section 8, apprising them of the construction of new sewers or repairs to old sewers.

During the year 1945, 2,362 catch-basins were cleaned by day labor and 2,158 catch-basins were cleaned by contract.

Respectfully,

ROBERT P. SHEA,
Division Engineer.

Summary of Sewer Construction for Twelve Months Ending December 31, 1945.

DISTRICTS.	Built by City either by Contract or Day Labor.	Built by Private Parties.	Total Lengths Built.	
	Linear Feet.	Linear Feet.	Linear Feet.	Miles.
City Proper.....	395.07	.....	395.07	0.0748
Roxbury.....	311.80	.....	311.80	0.0591
South Boston.....	None.	None.	None.	None.
East Boston.....	211.40	.....	211.40	0.0400
Charlestown.....	None.	None.	None.	None.
Brighton.....	None.	None.	None.	None.
West Roxbury.....	3,407.72	.....	3,407.72	0.6454
Dorchester.....	638.85	.....	638.85	0.1209
Hyde Park.....	1,423.33	.....	1,423.33	0.2696
Totals.....	6,388.17	.....	6,388.17	1.2098

Summary of Sewer Construction for Five Years Previous to January 1, 1946.

	1941.	1942.	1943.	1944.	1945.
	Linear Feet.	Linear Feet.	Linear Feet.	Linear Feet.	Linear Feet.
Built by city by contract or day labor.....	11,209.99	10,181.74	2,008.53	2,457.36	6,388.17
Built by city under auspices of W. P. A., etc...	32,363.69	457.00			
Built by private parties or other city departments.....	9,029.94	1,968.20		270.50	.....
Totals.....	52,603.62	12,606.94	2,008.53	2,727.86	6,388.17

Total Length of Sewers.

DISTRICTS.	Total Lengths Built During Twelve Months Ending December 31, 1945.	Lengths Removed or Abandoned During Twelve Months Ending December 31, 1945.	Additional Lengths for the Twelve Months Ending December 31, 1945.	
	Linear Feet.	Linear Feet.	Linear Feet.	Miles.
City Proper.....	395.07	244.87	150.20	0.0284
Roxbury.....	311.80	311.80	.....	.....
South Boston.....	None.	None.	None.	None.
East Boston.....	211.40	211.40	.....	.....
Charlestown.....	None.	None.	None.	None.
Brighton.....	None.	None.	None.	None.
West Roxbury.....	3,407.72	.....	3,407.72	0.6454
Dorchester.....	638.85	.....	638.85	0.1209
Hyde Park.....	1,423.33	276.56	1,146.77	0.2173
Totals.....	6,388.17	1,044.63	5,343.54	1.0120

Grand Total Length of Sewers.

Common sewers and surface drains built previous to January 1, 1945	1,222.51
Common sewers and surface drains built between January 1 and December 31, 1945	1.01
Total length of common sewers and surface drains built to December 31, 1945	1,223.52
Total length of city intercepting sewers connecting with Metropolitan sewers to December 31, 1945	*6.81
Total length of Boston main drainage intercepting sewers to December 31, 1945	*24.12
Grand total of common and intercepting sewers to December 31, 1945	1,254.45
Total mileage of streets containing sewerage works on January 1, 1946	687.04

*No additional lengths built during 1945.

Catch-Basins in Charge of Sewer Division.

DISTRICTS.	CATCH-BASINS FOR TWELVE MONTHS ENDING DECEMBER 31, 1945.			TOTAL FOR WHOLE CITY IN CHARGE OF SEWER DIVISION.	
	Number Built or Rebuilt.	Number Abandoned or Removed.	Net Increase.	Previous Report to January 1, 1945.	Grand Total to January 1, 1946.
City Proper.....	3	2	1	3,627	3,628
Roxbury.....	4	4	0	3,394	3,394
South Boston.....	3	2	1	1,456	1,457
East Boston.....	1	0	1	1,105	1,106
Charlestown.....	2	2	0	841	841
Brighton.....	5	0	5	1,983	1,988
West Roxbury.....	34	0	34	3,911	3,945
Dorchester.....	5	1	4	5,345	5,349
Hyde Park.....	2	0	2	924	926
Totals.....	59	11	48	22,586	22,634

Sewage Statistics for Year 1945, Calf Pasture Pumping Station.

MONTH.	Total Gallons Pumped.	Average Gallons Pumped Per Day.	Maximum Gallons Pumped Per Day.	Minimum Gallons Pumped Per Day.	Average Lift. (Feet.)
January.....	3,244,893,000	104,673,968	174,100,000	88,520,000	39.5
February.....	3,270,399,000	116,799,964	187,880,000	90,427,000	39.5
March.....	3,628,532,000	117,049,419	161,161,000	93,552,000	39.5
April.....	3,072,945,000	102,431,500	148,787,000	80,815,000	39.5
May.....	3,451,411,000	111,335,839	167,712,000	69,587,000	39.5
June.....	3,467,061,000	115,568,700	167,236,000	104,382,000	39.5
July.....	3,414,903,000	110,158,161	155,499,000	95,592,000	39.5
August.....	3,343,468,000	107,853,807	157,340,000	85,168,000	39.5
September.....	3,150,575,000	105,019,167	155,107,000	90,342,000	39.5
October.....	3,001,256,000	96,814,710	136,900,000	74,700,000	39.5
November.....	3,179,929,000	105,997,633	175,000,000	88,425,000	39.5
December.....	3,644,902,000	117,577,484	195,700,000	85,675,000	39.5
Totals.....	39,870,274,000				
Averages.....	109,233,627				

Total Running Time of Pumps.— Number 1, 1,860 hours, 35 minutes; Number 2, 2,344 hours, 00 minutes; Number 3, 3,732 hours, 40 minutes; Number 4, 1,431 hours, 00 minutes; Number 5, 8,329 hours, 50 minutes; Number 6, 6,981 hours, 20 minutes.

Pumping Statistics.

Total gallons pumped	39,870,274,000
Daily average gallons pumped	109,233,627
Average dynamic head	39.5
Foot gallons	1,574,875,823,000
Foot pounds	13,180,135,762,687

Fuel Record for Year 1945, Calf Pasture Pumping Station.

MONTH.	Fuel Oil. (Gallons.)	Amount.	Coal. (Tons.)	Pounds.	Amount.
January.....			167	1,500	\$1,504 72
February.....			137	.....	1,228 89
March.....			131	500	1,177 31
April.....			123	.....	1,103 31
May.....			120	.....	1,076 40
June.....			114	.....	1,022 58
July.....			67	500	603 23
August.....	5,988	\$261 46	83	500	746 75
September.....	18,521	808 70	.....	.....	.....
October.....	22,302	973 79	.....	.....	.....
November.....	21,982	959 82	.....	.....	.....
December.....	26,871	1,173 30	.....	.....	.....
Totals.....	95,664	\$4,177 07	943	3,000	\$8,463 19

NOTE.—Started burning oil August 22, 1945.

**Amount of Refuse Removed from Filth Hoist for 1945,
Calf Pasture Pumping Station.**

MONTH.	Weight. (Pounds.)
January.....	11,115
February.....	8,550
March.....	11,970
April.....	9,880
May.....	14,630
June.....	11,970
July.....	13,585
August.....	12,825
September.....	15,010
October.....	12,825
November.....	13,015
December.....	12,445
Total.....	147,820

73 $\frac{1820}{2000}$ tons.

Financial Statement from January 1, 1945, to December 31, 1945.

	Balance on Hand January 1, 1945.	Appropria- tions and Revenue, 1945.	Transfers from Net.	Transfers to Net.	Total Credits, December 31, 1945.	Total Expendi- tures, 1945.	Unexpended.
Sewer Service.....	\$410,526.58	.....	.....	\$4,900.00	\$405,626.58	\$398,402.56	\$7,224.02
Sewerage Works, Non-Revenue.....	\$52,951.19	1,000,000.00	120.20*	.....	1,053,071.39	246,722.01	806,349.38
Sewerage Works, Revenue.....	2,759.02	146,000.00	.....	.....	148,759.02	145,738.48	3,020.54

* \$120.20 — Inspectors' salaries on release jobs.

MAINTENANCE EXPENDITURES FROM
JANUARY 1, 1945, TO DECEMBER 31, 1945.

SEWER DIVISION.

Improved Sewerage.

Pumping Station, Calf Pasture, inside	\$97,230 98
Pumping Station, Calf Pasture, outside	986 80
Pumping Station, Calf Pasture, engines	31,624 31
Pumping Station, Calf Pasture, boilers	27,669 20
Pumping Station, Union Park Street	12,502 93
Pumping Station, Summer Street	3,706 79
Moon Island	26,062 32
Main and intercepting sewers	23,519 08
	\$223,302 41

Maintenance — Regular.

Automobiles	\$31,794 35
Cleaning catch-basins	79,843 71
Cleaning sewers	40,043 11
Fuel and oil	635 58
Hardware and tools	2,275 04
House connections	21,983 99
Maintenance, Stony Brook	1,150 45
Office and engineers' expense	3,114 21
Office and engineers' salaries	7,652 39
Stock	2,027 76
Yard and locker	36,311 52
	226,832 11

Maintenance — Repairs.

Repair streets	\$3,453 77
Repair department buildings	573 49
Repair catch-basins, South Boston	345 94
Repair catch-basins, East Boston	178 32
Repair catch-basins, Charlestown	142 18
Repair catch-basins, Brighton	1,253 89
Repair catch-basins, West Roxbury	2,877 73
Repair catch-basins, Dorchester	1,887 47
Repair catch-basins, Hyde Park	164 54
Repair catch-basins, Roxbury	103 29
Repair catch-basins, City Proper	859 00
Repair sewers, South Boston	177 70
Repair sewers, East Boston	692 89
Repair sewers, Charlestown	525 40
Repair sewers, Brighton	303 77
Repair sewers, West Roxbury	571 34
Repair sewers, Dorchester	984 13
Repair sewers, Hyde Park	69 26
Repair sewers, Roxbury	108 53
Repair sewers, City Proper	2,124 57
	17,397 21

Carried forward \$467,531 73

Maintenance — Miscellaneous.

<i>Brought forward</i>		\$467,531 73
Miscellaneous	\$11,771 56	
Back Bay Fens	302 71	
Telephones	723 42	
Wearing apparel (rubber goods)	266 33	
Pensions and annuities	4,533 13	
Holiday, vacation, time allowed, etc.	35,931 50	
		<u>53,528 65</u>
Total		\$521,060 38

CREDITS.

Cost of trucks and cleaning machines used on jobs	\$13,301 87
Cost of maintenance stock used on jobs	753 81
Cost of construction stock used on jobs	1,312 87
Cost of maintenance materials paid by sewer- age works	13,764 51
Cost of maintenance pay rolls paid by sewerage works	93,613 16
Debit transfer to sewerage works, October 3, 1945 (labor)	4,356 84
Debit transfer to sewerage works, October 3, 1945 (trucks)	322 50
	<u>127,425 56</u>
	\$393,634 82

DEBITS.

Cost of sewerage works pay rolls paid by Sewer Service	\$4,756 49
Cost of sewerage works materials paid by Sewer Service	11 25
	<u>4,767 74</u>

Total expenditures, 1945 \$398,402 56

PUBLIC WORKS DEPARTMENT.

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Sewer Division — Maintenance Expenditures, Details, 1945.

Accounts.	Totals.	Labor.	Repairs.	Motor Vehicles, Cleaning Machines, Etc.	Taxes.	Contractors.	Light, Fuel, Power.	Materials and Supplies.	Equipment, Tools.	Miscellaneous.		
Automobiles.....	\$31,794 35	.....	\$8,455 50				\$136 35	\$5,427 89	\$17,172 61	Fees.....	
Cleaning catch-basins..	79,843 71	\$45,047 65	.....	\$10,710 91	.....	\$24,064 40	.....	.....	Storage.....	\$62 00	
Cleaning sewers.....	40,043 11	37,009 43	.....	2,801 83	.....	.....	.....	85	.....	Storage.....	\$340 00
Fuel and oil.....	635 58	.....	.....	.....	.....	.....	628 38	7 20	.....	Advertising.....	20 75
Hardware and tools....	2,275 04	223 50	40	4 25	.....	.....	.....	.....	2,046 89	Hired crane.....	231 00
House connections.....	21,983 99	21,165 22	.....	75 25	.....	738 19	.....	5 33	.....	.....	.....
Maintenance, Stony Brook.....	1,150 45	1,064 30	.....	74 25	.....	.....	11 90	.....	.....	.....	.....
Office and engineers' expense.....	3,114 21	1,487 01	51 50	15 00	.....	.....	1,277 75	32 59	Sundries.....	.....	250 36
Office and engineers' salaries.....	7,652 39	7,652 39	.....	.....	.....	.....	2,027 76	132 14	.....	.....	.....
Stock.....	2,027 76	.....	.....	.....	.....	.....	220 98	.....	.....	Towel service.....	50 40
Yard and locker.....	36,311 52	35,785 83	8 87	.....	.....	.....	3 07	.....	.....	Telephone service.....	113 30
Miscellaneous.....	11,771 56	9,803 72	.....	728 75	.....	.....	134 20	.....	.....	Transportation.....	821 65
Back Bay Feus.....	302 71	168 51	.....	.....	.....	.....	.....	.....	.....	Meals.....	7 25
Telephones.....	723 42	.....	.....	.....	.....	.....	.....	.....	.....	Telephone calls.....	301 60
Rubber goods.....	266 33	.....	.....	.....	.....	.....	.....	.....	.....	Unliquidated account.....	105 52
<i>Carried forward.</i>	\$239,896 13	\$139,407 56	\$8,516 27	\$14,410 24	\$24,802 59	\$1,119 91	\$8,893 89	\$19,252 09	\$3,493 58

Sewer Division — Maintenance Expenditures, Details, 1945.—Concluded.

ACCOUNTS,	TOTALS,	Labor.	Repairs,	MOTOR Vehicles, Cleaning MACHINES, Etc.	TAXES,	Contractors,	Light, Fuel, Power.	Materials and Supplies.	Equipment, Tools.	MISCELLANEOUS,
Brought forward . . .	\$239,896 13	\$159,407 56	\$8,516 27	\$14,410 24	.....	\$24,802 59	\$1,119 91	\$8,893 89	\$19,252 09	\$3,493 58
Pensions and annuities,	4,533 13	4,533 13								
Holidays, vacation, time allowed, etc. . . .	35,931 50	35,931 50								
Repair streets, etc. . . .	3,453 77	3,211 62			236 75	.....				5 40
Repair department buildings.	573 49	80 80			.....		492 69			
Repair catch-basins, South Boston.	345 94	300 05			3 00	.....				42 89
Repair catch-basins, East Boston.	178 32	178 32								
Repair catch-basins, Charlestown.	142 18	114 68			15 00	.....				12 50
Repair catch-basins, Brighton.	1,253 89	930 27			34 50	.....				289 12
Repair catch-basins, West Roxbury.	2,877 73	2,229 35			89 00	.....				559 38
Repair catch-basins, Dorchester.	1,887 47	1,260 23			73 50	.....				553 74
Repair catch-basins, Hyde Park.	164 54	130 00			3 75	.....				30 79
Repair catch-basins, Roxbury.	103 29	59 70			4 50	.....				39 09
Repair catch-basins, City Proper.	859 00	621 70			17 25	.....	216 40	.....		3 65
Repair sewers, South Boston.	177 70	164 50			3 00	.....				10 20
Repair sewers, East Boston.	692 89	287 88			30 00	.....	375 01			
Repair sewers, Charles- town.	525 40	126 82			3 00	395 58			

PUBLIC WORKS DEPARTMENT.

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CREDITS.*		DEBITS.
Trucks, etc., used on maintenance.....	\$13,301.87	Construction pay rolls paid by maintenance,
Maintenance stock used on maintenance.....	1,733.81	Construction materials paid by maintenance,
Construction stock used on maintenance.....	1,312.87	Total.....
Maintenance materials paid by construction,	13,704.51	
Maintenance pay rolls paid by construction,	93,613.16	
Debit transferred to construction (labor),	4,336.84	
Debit transferred to construction (trucks),	322.50	
Total.....	<u><u>\$127,425.56</u></u>	

Sewer Division — Maintenance Expenditures, Details, 1945.

ACCOUNTS,	Totals.	Labor.	Contractors.	Trucks.	Repairs.	Light, Heat and Power.	Grease, Oil and Gasoline.	Tools and Equipment.	Taxes.	Miscel- laneous.
Pumping Stations:										
Calf Pasture, inside.....	\$97,230 98	\$24,363 47	.....	.....	\$333 86	\$69,966 84	\$26 06	\$2,332 42	.....	\$208 33
Calf Pasture, outside.....	986 80	457 75	.....	.....	\$193 05	336 00	3,716 64	678 37	1,055 83	12 00
Calf Pasture, engines....	31,624 31	26,161 47	.....	.....	9 00	778 50	9,709 26	.....	1,889 85	155 09
Calf Pasture, boilers....	27,669 20	15,127 50	.....	.....	11 50	698 48	2,238 48	17 20	101 40	115 74
Union Park Street.....	12,502 93	9,320 13	.....	.....	.....	.....	1,873 23	.....	51 01	
Summer Street.....	3,706 79	1,782 55	.....	.....	.....	.....	489 01	408 98	151 38	\$345 00
Moon Island.....	26,062 32	23,936 50	.....	.....	591 30	32 90	166 24	16 25	3,864 51	39 65
Main and intercepting sewers....	23,519 08	17,607 35	\$299 68	1,492 50	.....	.....	.....	.....	.....
Totals.....	\$223,302 41	\$118,756 72	\$299 68	\$1,706 05	\$6,621 02	\$84,309 72	\$1,146 86	\$9,446 40	\$345 00	\$670 96

PUBLIC WORKS DEPARTMENT.

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Recapitulation, Maintenance, Detail, 1945.

ACCOUNTS.	Improved Sewerage.	Outside Improved Sewerage.	Total.
Labor.....	\$118,756.72	\$212,350.20	\$331,106.92
Contractors.....	299.68	27,415.98	
Trucks, cleaning machines, etc.....	27,116.30	15,008.02	16,714.67
Repairs.....	1,706.05	8,516.27	15,137.29
Light, heat and power.....	6,621.02	84,309.72	85,429.63
Materials and supplies.....	84,309.72	1,119.91	10,901.00
Equipment and tools.....	1,146.86	19,252.09	12,047.86
Storage.....	9,446.40	540.00	28,698.49
Telephones.....	.....	836.72	540.00
Taxes.....	345.00	.....	345.00
Fees.....	670.96	62.00	62.00
Sundries.....	.....	321.51	982.47
Hired erane.....	.....	231.00	231.00
Unliquidated reserve.....	.....	105.52	105.52
Wearing apparel.....	.....	266.33	266.33
Incidentals.....	.....	1,130.50	1,130.50
Totals.....	\$223,302.41	\$297,757.97	\$521,060.38
CREDITS.	Improved Sewers.	Outside Improved Sewers.	
Trucks used on maintenance.....	\$1,513.00	\$11,788.87	
Maintenance stock used on maintenance.....	33.78	720.03	
Construction stock used on maintenance.....	10.71	1,302.16	
Maintenance materials paid by construction.....	8,034.57	5,729.94	
Maintenance pay rolls paid by construction.....	11,185.04	82,428.12	
Debit transferred to construction (labor).....	.....	4,356.84	
Debit transferred to construction (trucks).....	322.50	322.50	
		20,777.10	106,648.46
Totals.....		\$202,525.31	\$191,109.51
DEBITS.			
Construction pay rolls paid by maintenance.....		\$4,756.49	
Construction materials paid by maintenance.....		11.25	
Total maintenance expenditures, 1945.....			4,767.74
			4,767.74
		\$202,525.31	\$195,877.25
			\$398,402.56

Sewerage Works, 1945.

Accounts.	Totals.	Labor.	Compressors, Pumps and Trucks.	Tools and Materials.	Contractors.	Sundries.
Engineers' and office salaries.....	\$116,839 11	\$116,839 11				
Engineers' and office expense.....	11,712 77	4,170 32	\$5,115 39	\$1,655 75	\$91 35	\$679 96
Miscellaneous.....	10,725 41	10,270 46	187 75	267 20		
Emergency Compensation Allotment.....	7,668 67	7,668 67				
New manholes, entire city.....	4,967 21	3,945 50	219 75	359 69	442 27	
New catch-basins, South Boston.....	2,224 11	1,630 84	39 00	147 17	407 10	
New catch-basins, East Boston.....	1,102 26	1,053 01	18 00	31 25		
New catch-basins, Charlestown.....	651 28	461 28	9 75	180 25		
New catch-basins, Brighton.....	2,056 05	697 12	42 75	379 04	937 14	
New catch-basins, West Roxbury.....	1,248 66	242 11	6 75	110 20	889 60	
New catch-basins, Dorchester.....	537 38	361 75	7 50	168 13		
New catch-basins, Roxbury.....	2,246 37	2,088 07	31 50	126 80		
New catch-basins, City Proper.....	1,168 28	697 70	18 00	88 49	364 09	
Repair street.....	43 62	.....	.....	.....	43 62	
Stock.....	2,380 79	.....	.....	2,380 79		
Testing laboratory.....	10,552 98	10,325 46	.....	97 87	.....	129 65
Holiday, etc.....	20,852 73	20,852 73	.....	.....	.....
Unadvertised jobs.....	7,390 42	691 50	.....	.....	6,698 92	
Total miscellaneous.....	\$204,368 10	\$181,995 63	\$5,696 14	\$5,992 63	\$9,874 09	\$809 61
Sewers built, entire city.....	85,547 59	14,903 10	67 50	2,164 85	68,279 59	132 55
Totals.....	\$289,915 69	\$196,898 73	\$5,763 64	\$8,157 48	\$78,153 68	\$942 16

Sewerage Works, 1945.—Concluded.

ACCOUNTS,	Totals,	Labor.	Compressors, Pumps and Trucks.	Tools and Materials.	Contractors,	Sundries.
CREDITS.						
Sewer Service stock used on sewerage works	\$602 87					
Sewerage works stock used on sewerage works	3,422 60					
Sewer Service trucks used on sewerage works	719 00					
Sewerage works pay rolls paid by Sewer Service	4,767 74	\$9,512 21	\$4,767 74	\$719 00	\$4,025 47	
Totals	\$280,403 48	\$192,130 99	\$5,044 64	\$4,132 01	\$78,153 68	\$942 16
DEBITS.						
Sewer Service pay rolls paid by sewerage works	\$93,613 16					
Sewer Service materials paid by sewerage works	13,764 51					
Debit transfers from Sewer Service pay rolls, October 3, 1945 . . .	4,356 84					
Debit transfers from Sewer Service trucks, October 3, 1945 . . .	322 50	112,057 01	97,970 00	322 50	13,764 51	
Total expenditures, 1945	\$392,460 49	\$290,100 99	\$5,367 14	\$17,896 52	\$78,153 68	\$942 16

Sewerage Works, January 1 to December 31, 1945.

LOCATION.	BEGUN.	FINISHED.	BUILT BY.	LENGTH IN FEET.	CHARACTER.	AMOUNT EXPENDED IN 1945.
EAST BOSTON.						
Mavrick street, from westerly line of Jeffries street easterly.	Sept. 5, 1944	Sept. 12, 1944	Baker & Co. ....	.....	Final payment.....	\$226 56
Decatur street, overflow in private land, from Border street to 210 feet westerly.	Sept. 22, 1945	Dec. 19, 1945	H. DiTullio.	211.40	5' 0" diameter concrete pipe over-flow.	12,991 62
CHARLESTOWN.						
Spice street, between Cambridge street and the end.	Aug. 31, 1944	Oct. 5, 1944	Angelo Grande. ....	.....	Final payment.....	288 83
WEST ROXBURY.						
Colbourne street, brook in private land, from Washington Heights avenue to 90 feet southerly.	May 9, 1944	Dec. 27, 1944	Department labor. ....	.....	No construction in 1945.	228 07
Morey road and Vincent road and outlet for Jeshurin road in Grove street.	Aug. 28, 1944	Sept. 2, 1944	Baker & Co. ....	.....	Final payment.....	462 02
Southbourne road, from Eastland road to Hyde Park avenue.	Nov. 1, 1944	Nov. 30, 1944	J. D'Amico. ....	.....	Final payment.....	1,105 78
Weld street, from Church street to Park-lawn road, and Lennox road, from Orchard hill road to 200 feet northeasterly.	Sept. 15, 1944	Oct. 11, 1944	Martin J. Kelly Company, Inc. ....	.....	Final payment.....	707 39
Winslow street, from Perham street to Temple street.	Aug. 11, 1944	Aug. 16, 1944	Martin J. Kelly Company, Inc. ....	.....	Final payment.....	113 42
Barday road.	June 28, 1945	Aug. 6, 1945	Baker & Co.	36.00	10" catch-basin drain..... 2 catch-basins.	9,123 68
Berwick street.	June 28, 1945	Aug. 6, 1945	Baker & Co.	34.00	10" catch-basin drain..... 2 catch-basins.	9,123 68

Durant street.	June 28, 1945	Aug. 6, 1945	Baker & Co.	20.00	10" catch-basin drain. 2 catch-basins.
Hazelmere road.	June 28, 1945	Aug. 6, 1945	Baker & Co.	130.00	10" catch-basin drain. 10" surface drain. 2 catch-basins. 2 manholes.
Saco street, Dorchester	June 28, 1945	Aug. 6, 1945	Baker & Co.	96.18	10" catch-basin drain. 2 catch-basins.
Owen street, from Tiverton road to Morton street and outlet in Tiverton road from Stow road to Owen street (Dorchester).	June 28, 1945	Aug. 6, 1945	Baker & Co.	359.35	12" surface drain. 3 manholes. 2 catch-basins.
Outlets for catch-basins in River street at northeast corner of Mill Pond (Hyde Park).	June 28, 1945	Aug. 6, 1945	Baker & Co.	36.00	10" pipe surface drain. 12" catch-basin drain. 2 catch-basins. 2 drop inlets. 1 manhole.
Higgins street (Brighton).	June 28, 1945	Aug. 6, 1945	Baker & Co.	9.00	10" catch-basin drain. 1 catch-basin. 3 manholes.
Dwinell street, from Addington road to Corey street.	June 4, 1945	July 28, 1945	Charles Struzziery	524.15	12" surface drain.....
Private land between Keystone street and Joyce Kilmer road.	.....	.....	Baker & Co.	532.50	10" surface drain.....
May street and Northbourne road, West Roxbury.	June 25, 1945	Aug. 25, 1945	J. D'Amico	136.00	10" catch-basin drain. 7 manholes; 6 catch-basin drain.
Nonantum street (Brighton).	.....	.....	.....	.....	No construction in 1945.
Columbia road (South Boston).	.....	.....	.....	.....	.....
Public Alley No. 103, City Proper.	.....	.....	.....	4.00	16" pipe, sewer. 1 special manhole. 1 manhole.
			Engineering.....	.....	111 31
				2,629 77	

Sewerage Works, January 1 to December 31, 1945.—Concluded.

LOCATION.	Begun.	Finished.	Built by.	Length in Feet.	Character.	Amount Expended in 1945.
Pond street, from Woodland road to Brook-line line.	Aug. 8, 1945	Nov. 5, 1945	C. Russo	275.00 1,031.57 201.45 189.00	24" pipe, surface drain 18" pipe, surface drain. 12" pipe, surface drain. 10" catch-basin drain. 13 manholes; 12 catch-basins; 3 drop inlets.	\$14,924 26
Centre street at St. Theresa avenue	Oct. 18, 1945	Nov. 23, 1945	M. DeMatteo	34.00	15" sewer relaid Engineering and inspection.	580 77
Moville street, from Webster street to Spring street.	Oct. 17, 1945	Oct. 31, 1945	H. DiTullio Company	175.20 176.45 56.00	10" pipe, sewer 10" pipe, surface drain 10" pipe, catch-basin drain. 2 manholes; 4 catch-basins.	2,289 96
DORCHESTER.					Furnish new transformer tank, install present transformer coils and incidental extra work.	
Calf Pasture Pumping Station, new transformer tank and installation of present transformer coils.	Jan. 14, 1944	Jan. 18, 1945	Westinghouse Electric & Manufacturing Company		Final payment	2,938 88
Wilkinson park, private land and outlet in Hecla street, Dorchester, and Whitford street, between Poplar street and Hilburn street (West Roxbury).	July 29, 1944	Sept. 30, 1944	A. Piatelli and C. DiMartino		Final payment	209 03
Private land from 30 feet northwest of Dilingham street to 120 feet northwesterly.	Dec. 4, 1945	Dec. 12, 1945	John Williams	154.50	10" pipe, sewer 1 manhole. 2 lamp holes.	227 72
Private land from Sydney street to Tuttle street, Tuttle street from 420 feet south of Hartland street to 100 feet southerly and catch-basin in Hartland street.	Dec. 10, 1945	Not completed.	J. D'Amico	125.00	24" pipe, surface drain	357 83
Moon Island, construction of electric power line.	Nov. 7, 1945	Not completed.	Anderson Coffey Company Inc.		Engineering and inspection	534 00
HYDE PARK.						
Austin street, from 45 feet south of Marston street to 950 feet northerly.	Jan. 2, 1945	April 7, 1945	Baker & Co.	950.87	12" pipe, sewer 5 manholes.	4,859 99
Austin street, Magee street, Sherrin street and Deforest street.	Dec. 2, 1943	Dec. 31, 1943	The Prompt Contractors		Engineering	18 08

Private land and Summer street, from New York, New Haven and Hartford Railroad to West street.	July 26, 1945	Nov. 7, 1945	H. DiTullio Company,	276.56	15" pipe, sewer 1 manhole.	11,565 89
Roxbury.	April 23, 1945	May 24, 1945	Martin J. Kelly Company, Inc.	261.80 71.00	15" pipe, sewer relay 1 manhole. Pipe minor drains.	4,205 62
CITY PROPER.					Engineering and concrete tests	179 49
Demolition of existing north wall and construction of new wall at Charles Street Jail.	Oct. 11, 1944	Mar. 30, 1945	D'Amore Company			
Green street, from Staniford street to Levert street.	Nov. 26, 1944	Dec. 18, 1944	J. D'Amico		Repay trench 76.04 square yards granite block pavement, concrete base and grout joints—March 29-April 2, 1945.	1,334 21
Ordway place, from Washington street to Province court.	Aug. 14, 1945	Sept. 8, 1945	Martin J. Kelly Company, Inc.	150.20 6.00	Lengths of construction of sewer, etc. Reported 1944. Payment made in 1945 for same.	2,560 71
Appleton street, between Clarendon street and Berkley street.	Sept. 20, 1945	Oct. 29, 1945	Department labor	14.00 5.00	10" pipe, surface drain 2 manholes.	
Appleton street, between Clarendon street and Berkley street.	Dec. 3, 1945	Dec. 29, 1945	R. A. Buccella & Son	192.30	12" pipe, sewer 6" pipe, minor drain. 12" pipe, sewer	1,855 33 No expenditure in 1945.

W. R. P. Construction, January 1, 1945, to December 31, 1945.

Location.	Begin.	Finished.	Built by.	Length in Feet.	Character.	Amount Expended in 1945.
MISCELLANEOUS.	Aug. 1, 1945	Aug. 31, 1945	W. R. P.		Tool repairs and new parts	\$70 30
Tool repairs and parts.						

APPENDIX E.

REPORT OF THE DIVISION ENGINEER OF
THE WATER DIVISION.

BOSTON, January 2, 1946.

To the Commissioner of Public Works.

DEAR SIR,—I respectfully submit the following report of the activities of the Water Division, operations and expenditures for the fiscal year ending December 31, 1945.

In order to cooperate with the United States Government in the conservation of critical material, the work of laying and relaying water mains has been severely curtailed so that but very little work of this nature was performed during the year.

823 linear feet of water mains were extended, this work being performed to provide facilities to new housing areas developed in connection with the war work. 717 linear feet of pipe were relaid due to defective water mains.

DISTRIBUTION BRANCH.

Due to the decrease in personnel, and the difficulty of replacing employees during the war, the department has engaged the services of contractors to assist the departmental forces in the City Proper, Dorchester and West Roxbury districts.

The regular work of this branch, consisting of installation of new services and fire pipes, repairing of leaks, caring for complaints, shutting off and letting on water, freeing of stoppages in pipes, etc., was performed in such a manner and at such periods as to cause minimum delay and inconvenience to applicants for water, water takers and the general public.

The machine shop and plumbing shop were forced to handle all the drilling and connecting of services in addition to the regular work carried on in these shops, such as the machining and assembling of gates, valves and hydrants, and the department assisted the other branches of the Public Works Department in performing special jobs.

In order to check the leakage of water, a Pitometer Survey of Brighton High Service, Back Bay and Dorchester, known as Pitometer Sections 2, 8 and 9, was completed in 1945, and the contractor was paid for the actual leakage found the sum of \$15,000.

BUSINESS OFFICE.

The campaign inaugurated in 1938 to enforce the payment of outstanding water bills is still in force. Customers in arrears are notified that the flow of water will be reduced, but yet enough water is left on the premises to provide a minimum for health and sanitary requirements. As a result of this campaign the Water Division ended the year 1945 with a surplus of \$1,473,054.57, this surplus being due mainly to the collection of bills past due, and the increased consumption of water in government properties and war plants.

Main pipe petitions received	6
Domestic service applications	118
Fire pipe applications	22
Special meter tests	238
Hydrant permits issued	17
Repair deposits received	107
Miscellaneous deposits	24
Main pipe repairs	97

APPROPRIATIONS, EXPENDITURES AND REVENUE.

Amount appropriated	\$1,290,891 00
Amount expended	1,166,730 17
Balance	\$124,160 83

Amount of money collected during the year	\$5,719,125 06
Amount expended from all sources	\$4,246,070 49

The Metropolitan assessment for 1945 amounted to \$2,908,330.96, an increase of \$229,165.64 over the assessment for 1930.

Total amount billed in 1945	\$5,757,423 30
Total amount collected for 1945, bills as of December 31, 1945	\$4,562,935 47
Total amount abated for 1945, bills as of December 31, 1945	\$36,165 16
Total amount collected in 1945 on bills rendered prior to 1945	\$854,822 56

This department contacts the water consumers very frequently throughout the year, and the conduct of the office has been such that I believe a spirit of good will between the customers and the employees has been brought about which is beneficial to the consumer and the city.

The issuance of statements of outstanding water bills to the consumers has been continued. The appreciation of the customers is shown by the fact that the number of liens placed on premises this year has been reduced.

Respectfully submitted,

D. M. SULLIVAN,
Division Engineer.

Table No. 1. Statement of Work Done during the Year 1945.

MAKE.	Applied.	Discontinued.	METERS CHANGED.		Tested in Shop.	Repaired in Shop.	Repaired in Service.	Resets.	Salvage.
			Out.	In.					
Hersey Disc.....	52	74	1,907	2,545	4,447	4,448	2,856	238	
Hersey Detecttor.....	1	.....	3	3	6	1	136	.....
Hersey Compound.....			3	2	5	.....	80	.....
Hersey Rotary.....			4	1	5	.....	.....	1	
Worthington Disc.....		8	255	19	274	.....	211	142	585
Watch Dog.....	31	21	1,327	1,222	2,549	1,664	382	.....	752
King.....		2	223	5	233	.....	230	.....
Federal.....			21	.....	21	.....	35	.....	79
American.....			26	.....	26	.....	45	.....
Lambert.....			5	.....	5	.....	43	.....	20
Crown.....			4	.....	4	.....	1	.....	23
Trident.....			3	.....	3	.....	.....	.....	27
Arctic.....	2	.....	4	2	6	2	28	.....	3
Nash.....			110	.....	110	.....	9	.....	85
Keystone.....			4	.....	4	.....	.....	.....
Totals.....	86	105	3,799	3,799	7,698	4,056	6,115	381	1,583

Table No. 2. Meters in Service, December 31, 1945.

MAKE.	DIAMETER IN INCHES.											Total.
	$\frac{5}{8}$	$\frac{3}{4}$	1	1 $\frac{1}{2}$	2	3	4	6	8	10	12	
Hersey Disc.....	58,896	3,126	1,962	1,042	597	169	138	36	1	.....	.....	65,967
Hersey Detector.....	.....	.....	.....	.....	.....	4	43	67	34	24	9	181
Hersey Compound.....	.....	.....	.....	.....	5	66	65	27	.....	.....	.....	163
Hersey Rotary.....	321	216	.....	.....	.....	.....	.....	.....	.....	.....	.....	537
Worthington Disc.....	4,527	22	27	30	39	8	.....	.....	.....	.....	.....	4,653
Watch Dog.....	21,992	1,088	920	705	455	400	89	.....	.....	.....	.....	25,649
American.....	484	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	500
King.....	1,902	183	.....	3	26	.....	.....	.....	.....	.....	.....	2,114
Federal.....	384	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	384
Crown.....	162	288	22	42	63	19	.....	4	.....	.....	.....	600
Nash.....	24	220	4	.....	5	.....	.....	.....	.....	.....	.....	253
Lambert.....	178	58	37	.....	5	.....	.....	.....	.....	.....	.....	273
Arctic.....	1	.....	.....	26	23	17	10	.....	.....	.....	.....	77
Keystone.....	125	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	127
Empire.....	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11
Trident.....	98	.....	6	1	11	21	12	1	1	2	.....	153
Totals.....	89,105	5,219	2,978	1,849	1,229	704	357	135	36	26	9	101,642

Table No. 3. Meters in Shop, December 31, 1945.
NEW AND REPAIRED.

NEW METERS. MAKE.	DIAMETER IN INCHES.								Total.
	$\frac{5}{8}$	$\frac{3}{4}$	1	1 $\frac{1}{2}$	2	3	4	6	
Hersey Disc.....	225	60	20	5	20	9	4	1	344
Hersey Detector.....	.....	.....	.....	.....	.....	2	2	.....	4
Hersey Compound.....	.....	.....	.....	.....	.....	1	.....	.....	1
Totals.....	225	60	20	5	20	9	7	3	349

OLD AND REPAIRED.

OLD METERS. MAKE.	DIAMETER IN INCHES.								Total.
	$\frac{5}{8}$	$\frac{3}{4}$	1	1 $\frac{1}{2}$	2	3	4	6	
Hersey Disc.....	257	41	129	.....	.....	.....	.....	.....	427
Worthington Disc.....	.....	.....	.....	.....	2	.....	.....	.....	2
Watch Dog.....	.....	.....	.....	1	.....	.....	.....	.....	1
Totals.....	257	41	129	1	.....	2	.....	.....	430

Table No. 4. Meters Repaired and Rebuilt at Factory.

MAKE.	DIAMETER IN INCHES.			Total.
	$\frac{5}{8}$	$\frac{3}{4}$	1	
Hersey Disc.....	1,113	146	95	1,354

Table No. 4A. New Meters Purchased in 1945.

MAKE.	DIAMETER IN INCHES.							
	$\frac{5}{8}$	$\frac{3}{4}$	1	1 $\frac{1}{2}$	2	3	4	8
Hersey Disc.....	625	60	20	10	20	5	5	5
Hersey Detector.....	.....	.....	.....	.....	.....	.....	.....	1
Totals.....	625	60	20	10	20	5	5	1

Table No. 5. Meters Reset.

MAKE.	DIAMETER IN INCHES.							Total.	Occupied Connection Pieces.
	$\frac{5}{8}$	$\frac{3}{4}$	1	1 $\frac{1}{2}$	2	3	4		
Hersey Disc.....	194	32	4	4	2	1	1	237	39 198
Watch Dog.....	122	10	6	4	1	....	1	144	38 106
Totals.....	316	42	10	8	3	1	2	381	77 304

Table No. 6A. Meters Changed in 1945. Meters Taken Out.

MAKE.	DIAMETER IN INCHES.									Total.
	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{2}$	2	3	4	6	12	
Hersey Disc.....	1,456	224	130	53	33	9	2	.....	.....	1,907
Hersey Detector.....	.....	.....	.....	.....	.....	.....	3	.....	.....	3
Hersey Compound.....	.....	.....	.....	.....	.....	1	2	.....	.....	3
Hersey Rotary.....	.....	4	.....	.....	.....	.....	.....	.....	.....	4
Worthington Disc.....	248	1	.....	1	1	4	.....	.....	.....	255
Watch Dog.....	1,037	112	104	50	15	7	2	.....	.....	1,327
King.....	212	10	.....	.....	1	.....	.....	.....	.....	223
Arctic.....	.....	.....	7	.....	1	.....	1	2	.....	4
Nash.....	8	2	.....	.....	.....	.....	.....	.....	.....	10
Lambert.....	.....	2	3	.....	.....	.....	.....	.....	.....	5
Crown.....	.....	2	.....	1	1	.....	.....	.....	.....	4
Federal.....	21	.....	.....	.....	.....	.....	.....	.....	.....	21
American.....	13	13	.....	.....	.....	.....	.....	.....	.....	26
Trident.....	3	.....	.....	.....	.....	.....	.....	.....	.....	3
Keystone.....	1	3	.....	.....	.....	.....	.....	.....	.....	4
Totals.....	2,999	273	237	106	51	22	8	3	.....	3,799

Table No. 6B. Meters Changed in 1945. Meters Put In.

MAKE.	DIAMETER IN INCHES.										Total.
	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{2}$	2	3	4	6	8	12	
Hersey Disc.....	2,007	279	160	56	40	3	.....	.....	.....	.....	2,545
Hersey Detector.....	.....	.....	.....	.....	.....	.....	3	.....	.....	.....	3
Hersey Compound.....	.....	.....	.....	.....	.....	1	1	.....	.....	.....	2
Hersey Rotary.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1
Worthington Disc.....	14	4	1	.....	.....	.....	.....	.....	.....	.....	19
Watch Dog.....	948	121	75	50	14	12	2	.....	.....	.....	1,222
King.....	4	1	.....	.....	.....	.....	.....	.....	.....	.....	5
Arctic.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	2
Totals.....	2,973	406	236	106	54	18	3	3	.....	.....	3,799

Table No. 7. Causes for Meters Changed.

MAKE.	Department Test.	Do Not Register.	No Force.	Enlarged Meter.	Coupling Leak.	Clock Broken.	Spindle Leak.	Set Backwards.	Frost.	Total.
Hersey Disc.....	120	1,342	103	57	121	5	80	6	73	1,907
Hersey Detector.....		3	.....	.....	.....	.....	.....	.....	.....	3
Hersey Compound.....		3	.....	.....	.....	.....	.....	.....	.....	3
Hersey Rotary.....		4	.....	.....	.....	.....	.....	.....	.....	4
Worthington Disc.....	21	176	17	6	21	2	2	1	9	255
Watch Dog.....	101	970	22	9	109	8	60	2	46	1,327
King.....	20	166	2	2	6	.....	12	.....	15	223
Arctic.....		4	.....	.....	.....	.....	.....	.....	.....	4
Nash.....		7	1	.....	1	1	.....	.....	.....	10
Lambert.....		5	.....	.....	.....	.....	.....	.....	.....	5
Crown.....		4	.....	.....	.....	.....	.....	.....	.....	4
Federal.....	1	17	1	.....	1	1	.....	.....	.....	21
American.....	4	15	1	.....	.....	1	5	.....	.....	26
Trident.....		3	.....	.....	.....	.....	.....	.....	.....	3
Keystone.....		2	.....	.....	2	.....	.....	.....	.....	4
Totals.....	269	2,719	147	74	261	17	160	9	43	3,799

Table No. 8. Meters Applied in 1945.

MAKE.	DIAMETER IN INCHES.											Total.
	$\frac{5}{8}$	$\frac{3}{4}$	1	1 $\frac{1}{2}$	2	3	4	6	8	10	12	
Hersey Disc.....	23	4	5	5	7	3	3	2	.....	.....	.....	52
Hersey Detector.....										1	.....	1
Worthington Disc.....												.....
Watch Dog.....	8	3	1	5	14	.....	.....	.....	.....	.....	.....	31
Trident.....						1	1	.....	.....	.....	.....	2
Totals.....	31	7	6	10	21	4	4	2	.....	1	.....	86

7 Meters applied on old service.

79 Meters applied on new service.

86 Total meters applied in 1945.

Table No. 9. Meters Discontinued in Year 1945.

MAKE.	DIAMETER IN INCHES.									Total.	Permanently Discontinued.	Vacancy.	Connection Pieces.
	$\frac{5}{8}$	$\frac{3}{4}$	1	1 $\frac{1}{2}$	2	3	4	6	8				
Hersey Disc.....	343	39	13	11	10	1	1	.....	.....	418	73	88	257
Hersey Compound .....	.....	.....	.....	.....	.....	.....	1	.....	.....	1	.....	.....	.....
Hersey Detector.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Worthington Disc.....	42	.....	.....	1	.....	.....	.....	.....	.....	43	8	2	33
Watch Dog.....	163	.....	4	7	4	2	.....	.....	.....	180	20	45	115
American.....	1	.....	1	.....	.....	.....	.....	.....	.....	2	1	.....	1
Federal.....	7	.....	.....	.....	.....	.....	.....	.....	.....	7	.....	.....	7
Crown.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	1	1	.....
King.....	22	.....	.....	.....	.....	.....	.....	.....	.....	22	2	4	16
Totals.....	578	41	17	19	14	3	2	.....	.....	674	115	140	429

Table No. 10. Meters Repaired in Service in 1945.

MAKE.	Defaced and Broken Clocks.	Spindle Leaks.	Coupling Leaks.	Broken Counter Boxes.	Examinations.	Total.
Hersey Disc.....	941	861	745	62	247	2,856
Worthington Disc.....	52	33	39	56	31	211
Watch Dog.....	47	191	61	27	56	382
King.....	28	96	69	14	23	230
American.....	18	1	12	7	7	45
Federal.....	10	8	9	4	4	35
Arctic.....	7	3	4	2	12	28
Nash.....	2	3	1	1	2	9
Lambert.....	1	1	2	33	6	43
Hersey Detector.....	31	42	.....	42	21	136
Hersey Compound	20	17	.....	16	27	80
Totals.....	1,157	1,256	942	264	437	4,056

Table No. II. Meters Salvaged for the Year 1945
 (Including Previous Inventory).

MAKE.	DIAMETER IN INCHES.			Total.
	$\frac{5}{8}$	$\frac{3}{4}$	1	
King.....	697	53	2	752
Worthington Disc.....	580	3	2	585
Federal.....	75	2	2	79
Lambert.....	28	1	.....	29
Crown.....	22	1	.....	23
Trident.....	26	1	.....	27
Arctic.....	3	.....	.....	3
Nash.....	85	.....	.....	85
Totals.....	1,516	61	6	1,583

*Showing Length of Water Pipes and Connections Owned and Operated by Public Works Department, Water Division,
Water Service, and Number of Valves in Same, December 31, 1945.*

	Diameter of Pipe in Inches.																Total.	
	48	42	40	36	30	24	20	16	14	12	10	8	6	4	3	2	Total.	
Length owned and operated, December 31, 1945*	55,595	16,191	9,599	30,238	75,843	89,285	108,131	365,804	285	1,832,400	451,004	1,195,937	969,329	62,442	11,486	6,599	5,280,078	
Gate valves in same.....	26	5	4	5	31	75	71	762	14	5,184	1,577	4,455	3,157	546	19	18	15,994	
Air valves in same.....	60	5	10	35	113	84	53	101	...	64	1	5	141	66	1	14	546	
Blow-offs in same.....	11	5	6	11	33	37	52	76	...	166	40	203	22	1,212	201	10	5	862
Length laid and relaid during 1945*	.....	.....	.....	.....	.....	.....	.....	73	...	28	1	1	5	3	3	3	1,536
Gate valves in same.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	1	1	1	1	1	1	10
Air valves in same.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Blow-offs in same.....	.....	.....	.....	.....	.....	.....	.....	70	...	28	1	1	1	1	1	1	1,190
Length abandoned during 1945*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Gate valves in same.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Air valves in same.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Blow-offs in same.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Length abandoned during 1945*	.....	.....	.....	.....	.....	.....	.....	70	...	28	1	1	1	1	1	1	1,190
Gate valves in same.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Air valves in same.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Blow-offs in same.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Length owned and operated, December 31, 1945, including high pressure fire service*	55,595	16,191	9,599	30,238	75,843	89,285	108,061	365,877	285	1,832,400	451,026	1,197,149	968,438	62,442	11,486	6,599	5,280,494	
Gate valves in same.....	26	5	4	5	31	75	71	762	14	5,184	1,578	4,460	3,153	546	19	18	15,998	
Air valves in same.....	60	5	10	35	113	84	53	101	...	64	1	5	141	66	1	14	546	
Blow-offs in same.....	11	5	6	11	33	37	52	76	...	166	40	203	22	1,212	201	10	5	862
High pressure fire service.....	.....	.....	.....	.....	.....	.....	.....	20,140	46,935	31,756	.....	.....	.....	.....	.....	.....	98,849

* Feet.

1 1,000,093 miles in system, including high pressure fire service.
18,721 miles in high pressure system.

Financial Transactions, Water Service, 1945.

Cash balance from 1944	\$1,350,224 10
Receipts:	
Water rates and services	\$5,684,025 54
Tax titles — water	35,099 52
	<hr/>
	5,719,125 06
	<hr/>
	\$7,069,349 16
Expenditures from revenue:	
Current expenses and extensions	\$1,166,730 17
Collecting Department	119,572 89
Auditing Department	666 67
Refunded water rates	733 68
Refunded water collections	67 37
Metropolitan assessment	2,908,330 96
	<hr/>
	\$4,196,101 74
Transfer of surplus to city loans, redemption of	1,350,224 10
	<hr/>
	5,546,325 84
	<hr/>
	\$1,523,023 32
Expenditures from debt account:	
Boston water debt	\$39,000 00
Interest on loans	10,968 75
	<hr/>
	49,968 75
	<hr/>
Cash forwarded to 1946	\$1,473,054 57
	131,016 02
	<hr/>
Surplus on hand, December 31, 1945	\$1,342,038 55
Loan Account:	
Balance outstanding, January 1, 1945	\$377,000 00
Paid during 1945, Boston water debt	39,000 00
	<hr/>
Balance outstanding, December 31, 1945	\$338,000 00
	<hr/>
Construction Account:	
Extensions of mains (from revenue)	\$8,076 04
	<hr/>
Cost of construction, December 31, 1945	\$24,539,684 10
Cost of construction, December 31, 1944	24,531,608 06
	<hr/>
Increase in plant cost during year 1945	\$8,076 04
	<hr/>

Cost of existing works, December 31, 1945:

Pipe yards and buildings*	\$84,332	16
Engineering expense	57,873	58
Distribution system †	24,222,478	36
Hyde Park water works	175,000	00
High pressure fire system ‡		\$24,539,684 10
		2,293,316 75
Total cost		\$26,833,000 85

* \$10,500 deducted on account of abolishment of Charlestown yard.

† Includes \$155,023.89 expended on high pressure fire system in 1925, 1926, 1931, 1932, 1933.

‡ \$33,850.96 deducted from cost of high pressure fire system on account of abandonment of pumping station, Battery street.

Shutting Off and Turning On Water in 1945.

Number of shut-offs for repairs	5,066
Number of premises turned on after repairs	4,411
Number of shut-offs for vacancy	372
Number of premises turned on for occupancy	406
Number of premises shut off for nonpayment of water rates	17
Number of premises turned on again after being shut off for nonpayment	2
Number of premises shut off on account of waste	5
Number of premises turned on again after being shut off for waste	0
Number of new service pipes turned on for the first time	19
Total number of times water was shut off or turned on	10,298

Table No. II. High Pressure Fire Service.*Showing Length of Water Pipes, Connections, Hydrants and Valves in Same, December 31, 1945.*

	DIAMETER IN INCHES.					
	Total.	20	16	12	8	6
Length owned and operated, December 31, 1944.....	* 98,849	20,140	46,953	31,756	.....	.....
Gates in same.....	847	.....	201	144	502	....
Blow-offs in same.....	6	.....	.....	.....	.....	6
Length laid in 1945.....	* 000	.....	.....	.....	.....	.....
Gate valves in same.....	000	.....	.....	.....	.....	.....
Length owned and operated, December 31, 1945.....	* 98,849	20,140	46,953	31,756	.....	.....
Gates in same.....	847	.....	201	144	502	....
Blow-offs in same.....	6	.....	.....	.....	.....	6
High pressure for fire hydrants.....	505	.....	.....	.....	.....	.....

* Feet. 18.72 miles of mains in system.

Table No. III.

WATERWORKS STATISTICS, CITY OF BOSTON.

FOR THE FISCAL YEAR ENDING DECEMBER 31, 1945.

Mains.

Kind of pipe: Cast-iron, wrought-iron, steel.
Size: 2-inch to 48-inch.
Size enlarged, miles, none.
Extended, miles, .079.
Total miles now in use, 1,000.093.
Public hydrants deducted, 6.
Public hydrants now in use, 12,236.
Stop gates added, 4.
Stop gates now in use, 15,998.
Stop gates smaller than 4-inch, 37.
Number of blow-offs, 862.
Range of pressure on mains, 30 to 90 pounds.

Services.

Kinds of pipe and size: Lead and lead-lined, $\frac{1}{2}$ -inch; cast-iron, 2-inch to 16-inch; wrought-iron and cement-lined, $\frac{3}{4}$ -inch to 2-inch; brass and copper, $\frac{5}{8}$ -inch to $2\frac{1}{2}$ -inch.
Service taps added, none.
Total service taps now in use as per metered services, none.

Cost of Replacement of Main Pipe, 1945.

STREET.	Location.	District.	Size. (Inches.)	Feeet.	Materials.	Labor.	Inspection.	Total Cost.	Per foot.	Original Size. (Inches.)	Remarks.
Warren Bridge.....	Charlestown side.....	Charlestown.	16	70	\$191 87	\$206 40	\$15 20	\$413 47	20	70	
General Lawrence J. Logan way.	Between Old Colony avenue and O'Callaghan way.	South Boston.	12	21	145 22	157 30	13 60	316 12	12	21	
Page street.....	Between McClellan Highway and Glenway street.	Dorchester.	8	440	1,069 68	1,050 83	105 08	2,225 59	6	440	
Dalrymple street.....	Between Boylston and Egleston streets.	West Roxbury.	8	172	839 62	70 15	7 50	917 27	6	172	
Fessenden street.....	At end.....	West Roxbury.	.....	.....	.....	8 75	3 80	12 55	6	10	
Decatur street.....	Between Bunker Hill and Vine streets.	Charlestown.	.....	.....	.....	12 20	6 75	18 95	6	250	
Pine street.....	Between Bunker Hill and Vine streets.	Charlestown.	.....	.....	.....	12 25	6 75	19 00	6	230	
Crawford street.....	At Elm Hill avenue.....	Roxbury.	12	7	137 40	144 80	27 90	310 10	12	7	
Washington street.....	Between Motte and Noonet streets.	City.	16	4	60 32	39 60	15 00	114 92			
Ipswich street.....	.....	Roxbury.	4	3	53 00	60 00	14 00	127 00	4	3	
			4	3	612				4	3	
			8	12	28				6	1,102	
			16	74					12	28	
	Totals.....		.....	717	\$2,497 11	\$1,762 28	\$215 58	\$4,474 97		1,203	

Cost of Extension of Main Pipe, 1945.

STREET.	Location.	District.	Size. Inches.)	Length. Feet.	Materials.	Labor.	Inspec- tion.	Total Cost.	Remarks.
Beechwood street.....	From Geneva avenue.....	Dorchester.	8	315	\$995 88	\$612 09	\$33 90	\$1,641 87	
Maverick street.....	Between Union and Ardee streets (for Logan Airport).	East Boston.	10 22	160 59	93 40	17 40	271 39		
Andover road.....	Centre street and Buchanan road.....	West Roxbury.	8	235	468 35	311 17	30 60	810 12	
Maple place.....	From Seavers avenue.....	West Roxbury.	6	186	252 68	187 50	27 60	467 78	
Canterbury street.....	Mt. Hope Cemetery.....	West Roxbury.	6	15	67 20	18 40	7 50	93 10	
Washington street.....	At Shannon street.....	Brighton.	8	50	222 61	161 12	23 10	406 83	
			{ 8 10 22 }						
				622					
				6 201					
	Totals.....			823	§2,167 31	\$1,383 68	\$140 10	\$3,691 09	

APPENDIX F.

REPORT OF BOSTON AND CAMBRIDGE
BRIDGES COMMISSION.

BOSTON, JANUARY 2, 1946.

To the Honorable the Mayor.

DEAR SIR,— As Commissioner for the City of Boston, I respectfully submit herewith the annual report of the Boston and Cambridge Bridges Commission for the year ending December 31, 1945.

The Commission is composed of two members, one appointed by the Mayor of the City of Boston and the other by the Mayor of the City of Cambridge, under provisions of chapter 467, Acts of 1898.

The Commission has charge of the maintenance of the following-named bridges between Boston and Cambridge:

Cottage Farm, Longfellow and Prison Point.

As there is no separate appropriation for the City of Boston's portion of the expenses of this Commission, the same is taken from the appropriation for the Bridge and Ferry Division, Bridge Service. The amount expended during the fiscal year ending December 31, 1945, was \$4,289.53.

Respectfully submitted,

ROBERT P. CURLEY,
Commissioner for the City of Boston.

NOTE.—Under chapter 690 of the Acts of 1945, the Boston and Cambridge Bridges Commission was abolished as of October 22, 1945, and the bridges formerly under the control of this Commission were turned over to the Metropolitan District Commission.

Boston and Cambridge Bridges. Expenditures for the Year Ending December 31, 1945.

Being the Portion Paid by the City of Boston, Which Is One Half of the Total Expenditure.

	Administration.	Cottage Farm Bridge.	Longfellow Bridge.	Prison Point Bridge.	Total.
Salaries.....	\$52 95	.....	\$1,435 00	.....	\$1,487 95
Inspection.....	.....	\$152 00	164 00	\$160 00	476 00
Light.....	.....	599 90	1,001 00	.....	1,600 90
Printing and stationery.....	12 25	.....	.....	.....	12 25
Repairs.....	60 16	596 00	656 16
Supplies.....	56 27	56 27
Totals.....	\$65 20	\$812 06	\$3,252 27	\$160 00	\$4,289 53

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